

Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**



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Preface

Electricity has become an issue of increasing public concern. After decades of declining prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. Since 1972, residential customer costs per kilowatt hour have risen 115%; for commercial customers costs have gone up 129%; and for industrial users they have risen 212%.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

- The study found that most Americans in every region and demographic grouping show concern about both rising electricity prices and future electricity availability. When asked about the present situation in their own area, Americans express only moderate concern with the current price and availability of electricity. But when they look ahead ten years, a majority of Americans foresee difficulties in obtaining reliable supplies of electricity adequate to their area's needs. Two out of three say their own rates are "about right" or "somewhat high", and a similar number believe the prices of most other consumer goods have risen more rapidly in recent years than electricity prices.
- Most Americans express a relatively favorable opinion of the electric utility company in the area in which they live, and they agree that there are a variety of reasons for rising electricity prices. When asked, for example, to rate various factors that might have contributed to the rise in electricity prices during the last five years, majorities or high pluralities cite as very important reasons higher fuel costs (54%), the time required to meet government environmental and safety regulations (47%), the slow rate of conversion to coal (46%), dependence on foreign oil (46%) and the cost of controlling pollution caused by power plants (45%).
- Quite predictably, large majorities—approximately eight out of ten—favor more conservation. By the same percentage, Americans favor increased use of coal in order to help provide adequate electricity capacity in coming years. The public divides relatively evenly—47% to 50%—over the desirability of building more nuclear power plants.
- On the issue of electricity pricing, majorities of Americans give support to two apparently contradictory principles. About six out of ten agree with the concept that a utility's electricity rates

should largely be based on what it actually costs that utility to provide service to each consumer class—the “cost of service” principle. But, in a later question, when it was explained that high volume industrial consumers usually pay less per kilowatt hour than residential consumers under such a concept, an equal number felt that, even if it actually costs less to supply electricity to industry, industrial and residential users should be charged the same amount for each unit they use. Nearly two-thirds of those asked also believe that poor people should pay the same rate as other users for their electricity, but an equal number endorse government programs that would help poor people pay for a certain basic amount of electricity.

- Absent any perspective of the effect of electricity prices on industry, it is not surprising that the public seems to endorse cost of service electricity pricing and also to oppose it. To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Americans say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- 1) About 7 out of 10 Americans recognize that industry pays attention—one in four saying “a lot of attention”—to what the electric rates are when making a plant location decision.
- 2) Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- 3) About 8 out of 10 Americans recognize that the prices charged by industry are affected by what industry pays for electricity—one in four saying “a large effect.” And 6 out of 10 would oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the

decline in the growth and competitiveness of our economy. The results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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Introduction

This is an analysis of a survey of public attitudes toward the problem of electricity supply and cost in the United States and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 1,001 adult Americans scientifically selected to reflect the attitudes of the entire over-18, noninstitutionalized population of the United States. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about the supply of electricity;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 6% or less on charts on which the base population is approximately 1,001, conclusions based on these responses should be made with caution as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referral;
- * Demographic charts discussed, but not included, in the text are available on request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% because of rounding;
- * The geographical areas referred to in this report are shown on the map that follows.



Executive Summary

This survey shows that most Americans do not expect there to be any immediate problems in maintaining adequate supplies of electricity to their area, but they feel much less secure about the long-term supply situation. Altogether, 55% of the population foresee some degree of difficulty supplying their area with electricity in 10 years' time, with fully one out of four people expecting supplies to be "very difficult" to maintain.

As for possible solutions to the problem of providing adequate supplies of electricity, more than four out of five people favor increased conservation by both business and individual consumers, and nearly the same proportion support increased reliance on coal for generating electricity. A third proposal we tested--increased construction of nuclear power plants--leaves the public just about evenly divided between support and opposition.

Turning to the public's views about suppliers of electricity, we find that, although only one in five people give the highest possible rating to their own utility, two out of three say their utility does a good job. Not surprisingly, there is a direct correlation between the size of people's electric bills and their feelings about their utility, with negative ratings rising sharply among those who report paying over \$100 per month.

Asked to assess their electric bills in more subjective terms, nearly two out of five people describe the rates charged by their utility as somewhat high, with just under one in three describing them as just right. Virtually no one describes their utility's rates as low, and less than one third describe them as very high. We see very little variation in these rate assessments even when people are asked to take into account all the benefits they receive from electricity. It is worth noting, however, that most people do not see electricity prices rising as fast as the prices of other things over the last 15 years. When asked to compare the rising cost of electricity with the cost of most other things since 1967, more than two out of three felt the cost of most other things has gone up more than electricity.

Among a number of factors we tested, the rising cost of fuel is rated by the public as the most important cause of rising electricity prices. Just about equal majorities also attribute at least some importance to the cost of meeting government regulations, reliance on imported oil for electricity generation, and the slow pace of coal conversion for utilities. The public is least likely to see the slowdown in nuclear power plant construction as a significant factor in rising electricity prices, though two out of three people do rate it as at least somewhat important.

The last part of the survey includes a series of questions revolving around the issue of cost-of-service pricing. Our data show that Americans generally go along with the general idea that electricity rates should be based directly on what it costs a utility to supply a given customer, but cost-of-service pricing is rejected by a clear majority when they learn that industry might as a result pay a lower per unit price for electricity than residential customers. This pricing system once again gains favorability, however, in response to questions testing arguments that the public might benefit as well because of lower consumer prices and increased jobs (though a large minority of diverse people consistently oppose cost-of-service pricing despite the promises contained in the arguments we tested).

We can conclude, therefore, that majority support for cost-of-service pricing will develop only if people believe that they, as well as industry, will receive clear benefits from the concept.

The Problem of Electricity Supplies

We began our survey by asking respondents how difficult a problem they feel it is ensuring adequate supplies of electricity to their part of the country, both now and over the long term. We also checked on people's views about three possible ways of providing adequate electricity supplies--increased use of coal, increased use of nuclear power, and increased conservation.

How big is the electricity supply problem?

As the first table shows, most people express low levels of concern about the problem of maintaining an adequate and reliable supply of electric power in their own area today. Asked to rate the difficulty of this problem on a 7-point scale, one out of four people assign the lowest possible rating. Altogether, 57% of the population give one of the three lowest difficulty ratings (points 1, 2, and 3 on the scale), whereas less than half that number--26% of the population--give one of the three highest difficulty ratings.

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

	Not difficult at all				Very difficult			[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?	25%	14	18	14	16	4	6	1
	57%				26			

Demographic breakdowns show that lower income and less educated respondents are somewhat more concerned than their counterparts about the problems of supplying electricity to their area. Residents of the Pacific region, which has experienced comparatively rapid population growth, are more concerned than people living in other sections of the country about electricity supply problems. On the whole, however, no demographic group exhibits a very high level of concern about electricity supply problems in their area at the present time. A complete demographic analysis follows.

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

1. NOT DIFFICULT
3.
5.
7. VERY DIFFICULT

2.
4.
6.
8. DK

Responses = 1001

1. 2. 3. 4. 5. 6. 7. 8.

MARGINALS

25 14 18 14 16 4 6 1

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	27	14	18	12	15	4	9	0
30	MOSTLY	25	16	19	15	15	4	5	1
35	SOMEWHAT	24	12	20	15	16	5	5	2
4	NOT AT ALL	30	19	11	19	11	3	5	3
3	DK	25	11	14	4	21	4	7	14

27. SEX

50	FEMALE	25	14	15	16	18	4	6	1
50	MALE	26	14	22	13	13	5	6	2

28. EDUCATION

6	SOME GRADE	26	11	8	16	20	7	10	2
8	SOME HIGH	16	18	10	13	20	8	11	5
36	HIGH GRAD	28	10	19	14	15	4	8	1
2	TECH-VOC	22	22	17	11	22	6	0	0
21	SOME COLLEGE	21	15	24	14	17	3	4	1
17	COLLEGE GRAD	27	15	19	14	14	6	4	1
9	GRAD SCHOOL	30	20	16	17	10	4	1	2
0	DK	25	25	0	25	0	0	25	0

29. INCOME

8	\$0-6999	28	6	15	10	23	1	13	4
9	\$7-9999	31	13	14	10	15	7	7	2
7	\$10-12999	17	14	21	10	26	6	6	1
7	\$13-14999	19	13	17	22	13	4	13	0
13	\$15-19999	26	14	21	15	12	2	10	1
14	\$20-24999	20	19	19	16	15	8	1	1
35	\$25000 AND OVER	28	14	20	16	15	4	4	1
6	REFUSED	29	21	14	11	11	5	5	4
2	DK	21	16	21	5	16	5	11	5

Providing supply of electricity today (continued)

1. NOT DIFFICULT	2.							
3.	4.							
5.	6.							
7. VERY DIFFICULT	8. DK							
Responses = 1001	1.	2.	3.	4.	5.	6.	7.	8.
MARGINALS	25	14	18	14	16	4	6	1
30. AGE								
17 18-25	21	17	22	20	11	3	4	2
26 26-35	20	16	22	19	15	3	5	1
16 36-45	26	12	15	12	21	4	7	2
17 46-55	26	14	16	11	19	5	9	1
11 56-65	38	9	14	9	15	7	6	1
12 OVER 65	29	15	20	9	10	6	8	3
1 REFUSED	40	20	10	0	10	10	10	0
AREA								
14 NORTHEAST	27	18	17	10	13	3	10	1
24 INDUSTRIAL	27	13	16	16	17	5	4	2
13 MIDLANDS	37	13	20	13	14	2	2	0
21 SOUTH	22	12	17	14	17	7	10	2
14 CENTRAL	23	15	26	15	10	5	4	2
13 PACIFIC	18	16	18	17	20	4	7	1

The picture changes dramatically, though, when we ask people to use the same scale in rating their expectations about electricity supplies in 10 years. As the next table shows, 55% of the population assign one of the three "difficult" ratings to the problem of supplying electricity to their area in a decade's time--more than double the number who assign that high a rating to the current situation.

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

	Not difficult at all				Very difficult			[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electri- city will be in your area?	11%	7	11	12	17	14	24	5
	29%				55			

Demographic breakdowns of the responses show that here, as in the previous question, lower income and less educated people tend to be more concerned than higher income and better educated people about the problems of supplying electricity to their area 10 years from today. A complete demographic analysis follows.

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

1. NOT DIFFICULT	2.							
3.	4.							
5.	6.							
7. VERY DIFFICULT	8. DK							
Responses = 1001	1.	2.	3.	4.	5.	6.	7.	8.
MARGINALS	11	7	11	12	17	14	24	5
18. PRICE BASED ON UTILITY'S COSTS								
28 TOTALLY	13	7	13	12	15	11	24	4
30 MOSTLY	9	9	10	12	20	14	23	5
35 SOMEWHAT	10	6	9	11	17	17	22	6
4 NOT AT ALL	16	8	5	16	11	14	22	8
3 DK	11	0	14	0	14	7	36	18
27. SEX								
50 FEMALE	9	5	8	11	19	14	29	6
50 MALE	12	10	13	12	16	14	19	5
28. EDUCATION								
6 SOME GRADE	8	5	8	11	11	10	25	21
8 SOME HIGH	4	8	8	9	15	16	35	6
36 HIGH GRAD	10	7	11	12	16	13	25	7
2 TECH-VOC	6	6	17	22	22	22	6	0
21 SOME COLLEGE	12	9	10	11	19	12	25	2
17 COLLEGE GRAD	15	5	12	13	20	14	20	2
9 GRAD SCHOOL	8	10	12	12	19	22	12	4
0 DK	25	0	25	25	0	25	0	0
29. INCOME								
8 \$0-6999	10	4	14	5	16	8	35	8
9 \$7-9999	12	7	12	12	22	7	24	5
7 \$10-12999	4	6	7	10	14	10	43	7
7 \$13-14999	10	3	4	10	17	26	26	4
13 \$15-19999	11	12	10	7	18	19	19	4
14 \$20-24999	6	8	12	17	17	17	20	4
35 \$25000 AND OVER	13	7	11	14	18	14	20	4
6 REFUSED	18	9	7	11	13	5	23	14
2 DK	5	5	16	5	16	11	16	26

Providing electric supply in 10 years (continued)

1. NOT DIFFICULT	2.							
3.	4.							
5.	6.							
7. VERY DIFFICULT	8. DK							
Responses = 1001	1.	2.	3.	4.	5.	6.	7.	8.
MARGINALS	11	7	11	12	17	14	24	5
30. AGE								
17 18-25	8	10	10	11	22	18	19	2
26 26-35	8	5	12	15	18	18	22	2
16 36-45	10	6	10	10	14	15	29	5
17 46-55	9	6	9	13	19	14	24	6
11 56-65	22	11	10	6	9	7	25	10
12 OVER 65	12	5	11	10	19	6	25	12
1 REFUSED	20	10	20	10	10	10	10	10
AREA								
14 NORTHEAST	13	10	9	10	19	10	21	7
24 INDUSTRIAL	10	4	13	10	17	19	21	6
13 MIDLANDS	12	6	11	11	26	8	19	8
21 SOUTH	11	8	9	13	14	11	29	5
14 CENTRAL	11	10	10	15	12	14	22	6
13 PACIFIC	7	4	10	11	17	19	29	1

Support for ways of providing electricity

After looking at people's views of the electricity supply problem, we tested their reactions to three possible ways of either expanding or extending electricity supplies. As the next table shows, large majorities of Americans favor both increased use of coal to generate electricity and expanded conservation efforts. The public is almost evenly split, however, about the idea of building more nuclear power plants as a way of ensuring adequate supplies of electricity.

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
Increasing our use of coal to generate electricity	23%	57	13	5	2
Building more nuclear power plants to gen- erate electricity	15%	32	29	21	2
Increased conservation of electricity by individual consumers, business, and industry	40%	46	8	3	2

Looking at the demographic breakdowns for the nuclear power question, on which the public is most divided, we see that better educated people are somewhat more likely than less educated people to favor new reactor construction. People over age 35 are also more likely than younger people to support nuclear power. The difference between the sexes, though, is probably the most striking pattern--a majority of men favor increased reliance on nuclear power, whereas a majority of women oppose it. A complete demographic analysis follows.

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one: building more nuclear power plants to generate electricity.

1. STRONGLY FAVOR
3. OPPOSE
5. DK

2. FAVOR
4. STRONGLY OPPOSE

Responses = 1001

1. 2. 3. 4. 5.

MARGINALS

15 32 29 21 2

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	17	33	29	19	1
30	MOSTLY	15	30	28	25	3
35	SOMEWHAT	13	35	29	20	3
4	NOT AT ALL	11	16	54	19	0
3	DK	18	29	21	21	11

27. SEX

50	FEMALE	9	29	35	24	3
50	MALE	21	35	24	18	2

28. EDUCATION

6	SOME GRADE	11	33	31	21	3
8	SOME HIGH	14	21	28	30	8
36	HIGH GRAD	13	33	30	20	3
2	TECH-VOC	17	17	50	17	0
21	SOME COLLEGE	18	31	29	21	1
17	COLLEGE GRAD	14	36	30	20	0
9	GRAD SCHOOL	18	34	22	22	3
0	DK	0	25	50	25	0

29. INCOME

8	\$0-6999	14	35	33	16	1
9	\$7-9999	12	26	34	27	2
7	\$10-12999	6	24	36	31	4
7	\$13-14999	14	29	25	26	6
13	\$15-19999	14	30	27	28	2
14	\$20-24999	14	35	30	17	4
35	\$25000 AND OVER	18	34	29	18	1
6	REFUSED	16	30	27	23	4
2	DK	21	37	16	16	11

30. AGE

17	18-25	13	28	33	26	1
26	26-35	10	30	34	24	2
16	36-45	17	33	28	18	4
17	46-55	19	32	31	18	1
11	56-65	21	39	23	15	3
12	OVER 65	14	35	23	22	6
1	REFUSED	10	30	20	30	10

Building more nuclear plants (continued)

- 1. STRONGLY FAVOR
- 3. OPPOSE
- 5. DK

- 2. FAVOR
- 4. STRONGLY OPPOSE

Response: = 1001

1. 2. 3. 4. 5.

MARGINALS

15 32 29 21 2

AREA

- 14 NORTHEAST
- 24 INDUSTRIAL
- 13 MIDLANDS
- 21 SOUTH
- 14 CENTRAL
- 13 PACIFIC

16	25	33	24	2
12	24	33	29	3
11	41	29	18	1
20	33	26	18	3
12	41	28	15	4
17	34	28	21	1

Electric Utilities and Their Rates

After we had looked at the public's general views about electricity supply problems and possible solutions, we asked in our survey a series of questions that explored people's attitudes toward electric utilities. First, we asked survey participants to tell us how they evaluate their own electric utility and the fairness of the rates they pay for electricity. We then checked to see how consumers think electric rates are set and why they believe rate increases have taken place in recent years.

Attitudes toward electric utilities

As the first table shows, most Americans rate their electric utility company favorably to some degree. Overall, 19% of the population rate their utility as bad (points 1, 2, or 3 on the scale), and 64% rate their utility as good (points 5, 6, or 7 on the scale). Fewer than one in five people give their utility the highest possible positive rating.

On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

Very, very bad						Very, very good	[DON'T KNOW]
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
5%	3	11	18	27	19	18	—
19%					64		

The demographic breakdowns of these ratings show few really striking patterns. Younger people tend to be slightly more favorable than older people in rating their utility, and residents of the Northeast are somewhat more critical than people living in other areas of the country. A complete demographic analysis follows.

On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

1. VERY VERY BAD
3.
5.
7. VERY VERY GOOD

2.
4.
6.
8. DK

Responses = 1000

	1.	2.	3.	4.	5.	6.	7.	8.
MARGINALS	5	3	11	18	27	19	18	0

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	8	4	9	18	26	18	18	0
30	MOSTLY	3	2	13	22	26	18	16	1
35	SOMEWHAT	3	5	11	15	29	19	18	1
4	NOT AT ALL	16	3	8	8	22	22	22	0
3	DK	4	4	4	18	21	25	25	0

27. SEX

50	FEMALE	6	4	9	17	25	20	19	1
50	MALE	5	3	12	18	28	17	17	0

28. EDUCATION

6	SOME GRADE	5	2	3	16	31	15	26	2
8	SOME HIGH	8	0	4	14	23	25	26	1
37	HIGH GRAD	5	4	10	19	27	16	19	0
2	TECH-VOC	0	0	11	22	17	28	22	0
21	SOME COLLEGE	2	5	15	20	26	18	14	0
17	COLLEGE GRAD	8	3	10	16	25	20	18	1
9	GRAD SCHOOL	6	2	15	15	31	20	10	1
0	DK	25	0	0	0	25	50	0	0

29. INCOME

8	\$0-6999	6	4	5	18	19	23	25	0
9	\$7-9999	7	0	7	17	26	23	20	0
7	\$10-12999	6	4	8	19	21	19	21	1
7	\$13-14999	6	3	6	19	29	21	17	0
13	\$15-19999	5	3	11	19	25	16	20	0
14	\$20-24999	1	7	17	17	31	14	13	1
35	\$25000 AND OVER	5	3	12	16	29	20	15	1
6	REFUSED	11	4	7	21	21	14	21	0
2	DK	5	0	11	16	37	11	21	0

Electric company rating (continued)

- | | |
|-------------------|-------|
| 1. VERY VERY BAD | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. VERY VERY GOOD | 8. DK |

Responses = 1000

	1.	2.	3.	4.	5.	6.	7.	8.
MARGINALS	5	3	11	18	27	19	18	0
30. AGE								
17 18-25	5	5	13	18	31	16	12	0
26 26-35	4	4	11	25	26	18	11	1
16 36-45	4	3	14	18	27	14	20	1
17 46-55	6	4	11	17	28	19	15	0
11 56-65	7	1	5	13	28	21	25	1
12 OVER 65	6	2	6	8	20	26	33	0
1 REFUSED	0	0	10	0	20	50	20	0
AREA								
15 NORTHEAST	12	3	11	21	23	11	19	0
24 INDUSTRIAL	3	3	11	17	26	21	19	0
13 MIDLANDS	1	3	12	18	29	16	21	0
22 SOUTH	7	3	12	18	27	18	15	0
14 CENTRAL	3	7	9	15	28	21	15	1
13 PACIFIC	4	1	7	16	28	24	18	1

Attitudes toward electric utility rates

We began our look at popular attitudes toward electric rates by asking people to tell us how much they pay for electricity each month, on the average. As the table of results shows, most people say they generally pay less than \$50 per month--with bills in the \$26-to-\$50 range being most common.

Approximately what is your average monthly electric bill?

\$0-25	19%
\$26-50	37
\$51-75	17
\$76-100	12
\$101-125	4
\$126-150	2
\$151-175	1
\$176-200	1
Over \$200	2
(Don't know)	5

Even though we saw earlier that people's ratings of their electric utility follow few demographic patterns, we do find a clear relationship between how much people pay for electricity and how they rate their utility. As the next table shows, there is a steady increase in slightly unfavorable ratings as bills rise toward \$100, and a sharp increase in highly negative feelings as they go over that figure.

Size of electric bills and ratings of electric utilities

<u>Average monthly electric bill</u>	<u>Electric utility rating</u>							
	Very, very bad				Very, very good			[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
\$0-25	4%	4	8	19	23	21	21	—
\$26-50	2%	2	9	18	30	18	20	—
\$51-75	7%	6	14	17	27	15	14	1
\$76-100	4%	3	16	19	26	20	11	1
\$101-125	21%	—	13	16	24	16	11	—
\$126-150	10%	10	10	10	24	19	19	—
\$151-175	13%	—	13	13	25	13	25	—
\$176-200	31%	—	23	15	15	8	8	—
Over \$200	18%	12	12	18	13	6	18	—
(Don't know)	—%	2	4	15	29	27	21	2

Since the overall ratings people give their utility can be based on factors other than rates--for example, the quality of customer service--we specifically asked respondents to tell us whether they feel their electric bills are high, about right, or low. As the table shows, over a quarter of the population feel their bills are very high and nearly another four in ten feel their bills are somewhat high. Slightly less than a third of the population feel their bills are about right, whereas virtually no one feels their electricity bills are low.

Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

Very high	28%
Somewhat high	38
About right	29
Somewhat low	3
Very low	1
(Don't know)	1

Demographic breakdowns show that lower income and less educated people are more likely than their counterparts to feel they are paying too much for electricity. Northeasterners are significantly more likely than people living in other areas of the country to feel their rates are very high. (A recent compilation of actual average electric bills in the 25 largest American cities does show that New York residents pay the highest rates in the country, whereas Boston residents pay the third highest rates, thus lending some credence to the Northeasterners' views.) A complete demographic analysis follows.

Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

- | | |
|----------------|------------------|
| 1. VERY HIGH | 2. SOMEWHAT HIGH |
| 3. ABOUT RIGHT | 4. SOMEWHAT LOW |
| 5. VERY LOW | 6. DK |

Responses = 1001

	1.	2.	3.	4.	5.	6.
MARGINALS	28	38	29	3	1	1

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	31	32	32	2	1	1
30	MOSTLY	24	42	28	4	1	1
35	SOMEWHAT	25	41	30	2	1	1
4	NOT AT ALL	41	43	14	3	0	0
3	DK	43	11	43	0	0	4

27. SEX

50	FEMALE	34	35	27	2	1	1
50	MALE	22	41	32	3	1	1

28. EDUCATION

6	SOME GRADE	33	36	30	2	0	0
8	SOME HIGH	50	23	24	0	3	1
36	HIGH GRAD	29	38	28	4	1	1
2	TECH-VOC	28	39	33	0	0	0
21	SOME COLLEGE	21	45	29	3	1	1
17	COLLEGE GRAD	25	35	36	2	1	1
9	GRAD SCHOOL	21	43	29	4	0	2
0	DK	25	50	25	0	0	0

29. INCOME

8	\$0-6999	34	32	29	4	1	0
9	\$7-9999	43	22	35	0	0	0
7	\$10-12999	26	36	31	4	1	1
7	\$13-14999	32	39	25	1	0	3
13	\$15-19999	26	45	18	5	4	2
14	\$20-24999	20	42	34	3	1	0
35	\$25000 AND OVER	24	40	32	3	1	1
6	REFUSED	32	39	25	0	0	4
2	DK	47	26	26	0	0	0

30. AGE

17	18-25	21	41	31	4	2	1
26	26-35	22	41	30	4	1	2
16	36-45	28	38	32	1	1	0
17	46-55	33	42	22	2	1	0
11	56-65	33	34	31	0	1	1
12	OVER 65	37	26	32	3	0	3
1	REFUSED	30	30	40	0	0	0

Electric company charges (continued)

- | | |
|----------------|------------------|
| 1. VERY HIGH | 2. SOMEWHAT HIGH |
| 3. ABOUT RIGHT | 4. SOMEWHAT LOW |
| 5. VERY LOW | 6. DK |

Responses = 1001

	1.	2.	3.	4.	5.	6.
MARGINALS	28	38	29	3	1	1

AREA							
14	NORTHEAST	41	36	22	1	0	0
24	INDUSTRIAL	26	40	30	2	0	2
13	MIDLANDS	24	40	29	4	2	2
21	SOUTH	33	36	27	2	1	0
14	CENTRAL	19	45	29	5	1	1
13	PACIFIC	19	32	41	4	2	2

Not surprisingly, as the next table shows, there is a clear relationship between the size of people's electric bills and their views about their electric company's charges.

Size of electric bills and views about electric company charges

	<u>Views about electric company charges</u>					
	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
<u>Average monthly electric bill</u>						
\$0-25	18%	29	44	5	3	1
\$26-50	26%	39	30	3	1	1
\$51-75	31%	46	20	1	1	1
\$76-100	27%	50	23	1	—	—
\$101-125	59%	28	10	3	—	—
\$126-150	43%	19	33	5	—	—
\$151-175	38%	—	63	—	—	—
\$176-200	46%	46	—	8	—	—
Over \$200	53%	29	18	—	—	—
(Don't know)	21%	37	33	—	—	10

Turning to another rate-related topic, we also asked respondents if they know whether their electric utilities set their own rates or whether they are regulated by a state commission. The table of results shows that barely half the population are aware that various state regulatory agencies do in fact determine electric utility rates.

Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

Electric company sets own rates	42%
(Don't know)	9
State commission sets rates	49

Demographic breakdowns show, as might be expected, that higher income and better educated people are more aware of state public utility commissions than their lower income and less educated counterparts. A complete demographic analysis follows.

Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

1. ELECTRIC COMPANY
3. STATE COMMISSION

2. DK

Responses = 998

1. 2. 3.

MARGINALS

42 9 49

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	45	6	49
30	MOSTLY	39	9	51
35	SOMEWHAT	40	10	50
4	NOT AT ALL	49	11	41
3	DK	46	25	29

27. SEX

50	FEMALE	45	12	43
50	MALE	38	7	55

28. EDUCATION

6	SOME GRADE	51	18	31
8	SOME HIGH	45	13	43
36	HIGH GRAD	42	11	47
2	TECH-VOC	44	0	56
21	SOME COLLEGE	39	6	55
17	COLLEGE GRAD	42	7	51
9	GRAD SCHOOL	39	3	58
0	DK	50	25	25

29. INCOME

8	\$0-6999	52	22	27
9	\$7-9999	52	9	39
7	\$10-12999	44	11	44
7	\$13-14999	47	8	44
13	\$15-19999	38	8	54
14	\$20-24999	36	7	57
35	\$25000 AND OVER	38	6	56
6	REFUSED	46	13	41
2	DK	37	32	32

30. AGE

17	18-25	43	7	51
26	26-35	45	9	47
16	36-45	44	9	47
17	46-55	45	8	48
11	56-65	33	12	55
12	OVER 65	34	14	52
1	REFUSED	40	10	50

Who sets electric company rates (continued)

- | | |
|---------------------|-------|
| 1. ELECTRIC COMPANY | 2. DK |
| 3. STATE COMMISSION | |

Responses = 998

1. 2. 3.

MARGINALS

42 9 49

AREA

15	NORTHEAST	43	8	49
24	INDUSTRIAL	46	10	44
13	MIDLANDS	40	8	52
22	SOUTH	45	10	46
14	CENTRAL	31	12	56
13	PACIFIC	39	7	54

Why are electric rates increasing?

Assuming that virtually everyone would agree that electricity prices have gone up in the last 15 years, we asked our sample to tell us whether electric rates have gone up faster or slower in price than most other kinds of purchases. As the table shows, more than a two-to-one majority feel electricity prices have not been rising as fast as the prices of most other things.

Which do you think has gone up more since 1967—the cost of electricity or the cost of most other things?

Cost of electricity	29%
(Don't know)	6
Cost of most other things	65

Demographic breakdowns show that older people are somewhat more likely than younger people to feel that electricity costs have been rising faster than the general cost of living--though majorities in all age groups still take the opposite view.

A complete demographic analysis follows.

Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

1. COST OF ELECTRICITY
3. COST OF OTHERS

2. DK

Responses = 998

1. 2. 3.

MARGINALS

29 6 65

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	28	3	69
30	MOSTLY	25	7	68
35	SOMEWHAT	31	7	62
4	NOT AT ALL	46	5	49
3	DK	32	14	54

27. SEX

50	FEMALE	32	7	61
50	MALE	26	5	69

28. EDUCATION

6	SOME GRADE	26	3	70
8	SOME HIGH	40	8	53
37	HIGH GRAD	29	5	65
2	TECH-VOC	39	0	61
21	SOME COLLEGE	27	4	69
17	COLLEGE GRAD	26	10	64
9	GRAD SCHOOL	31	3	65
0	DK	25	0	75

29. INCOME

8	\$0-6999	33	4	63
9	\$7-9999	40	7	53
7	\$10-12999	33	0	67
7	\$13-14999	21	7	72
13	\$15-19999	32	3	65
14	\$20-24999	24	7	69
35	\$25000 AND OVER	27	5	68
6	REFUSED	34	16	50
2	DK	26	21	53

30. AGE

17	18-25	25	3	72
26	26-35	23	5	72
16	36-45	33	9	58
17	46-55	32	6	62
11	56-65	33	6	61
12	OVER 65	38	4	58
1	REFUSED	20	10	70

Which gone up more since 1967 (continued)

1. COST OF ELECTRICITY
3. COST OF OTHERS

2. DK

Responses = 998

1. 2. 3.

MARGINALS

29 6 65

AREA

14 NORTHEAST
24 INDUSTRIAL

32 3 65

13 MIDLANDS

23 7 71

21 SOUTH

20 6 73

14 CENTRAL

38 8 54

13 PACIFIC

36 1 62

24 7 69

We next asked respondents to rate the importance of a number of factors often cited by observers of the electric utility industry as possible causes of rising electric rates. As the table shows, every one of the factors we asked about is considered at least somewhat important by a huge majority of Americans. Increased fuel costs are seen as the greatest contributor to rising rates, with over half the population assigning them a "very important" rating. Next--essentially tied for second place--come the costs of meeting government regulations, the slow pace of conversion to coal, dependence on foreign oil, and the cost of pollution control, each given the highest importance ratings by just under half the population. The slow pace of nuclear power plant construction ranks lowest in terms of perceived importance as a cause of rising electric utility rates.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

	<u>Very impor- tant</u>	<u>Somewhat impor- tant</u>	<u>Not very impor- tant</u>	<u>Not at all im- portant</u>	<u>(Don't know)</u>
Increased costs of fuel to generate electricity	54%	38	5	2	1
Dependence on imported oil as a fuel for gen- erating electricity	46%	31	15	7	1
The time it takes to meet environmental and health and safety regulations that are required by the govern- ment before a new power plant can be built	47%	35	12	5	2

Reasons some people give for the rise in electricity prices during the last 5 years or so (continued)

	<u>Very impor- tant</u>	<u>Somewhat impor- tant</u>	<u>Not very impor- tant</u>	<u>Not at all im- portant</u>	<u>(Don't know)</u>
The cost of controlling and decreasing air and water pollution caused by power plants	45%	35	15	3	2
The slowdown in constructing nuclear power plants	33%	33	23	7	4
The slow pace of conversion to greater use of coal to generate electricity	46%	35	13	4	3

Does electricity provide good value?

To close our examination of attitudes toward current electric rates, we repeated our earlier question about electricity pricing, this time including reference to "all the benefits" people receive from using electricity in their daily lives. As the table of responses shows, the results are similar to those we saw earlier, before any mention of the value received in return for the price of electricity and before we had asked the respondents to rate the various possible causes of rising electric rates. About two-thirds of the population still feel electric rates are high, even given the new wording of our question, while another third feel current rates are about right. Again, virtually no one feels their electricity charges are low.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

Very high	22%
Somewhat high	44
About right	30
Somewhat low	3
Very low	1
(Don't know)	1

As the crosstabulation below indicates, most people who took a given position on the earlier rate question stuck with it on this subsequent question, which referred to the benefits received from electricity. This would indicate that people's views about their electric utility's rates are firmly held.

Comparison of rate evaluations

<u>Evaluation of electric rates</u>	<u>Evaluation of electric rates considering benefits</u>					
	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
Very high	64%	32	4	—	—	1
Somewhat high	9	76	13	2	—	—
About right	1	19	74	4	1	—

Utility Rate Issues

In this section we explore two interrelated topics: people's attitudes toward the concept of cost-of-service electric utility pricing and their views about the linkage between electric utility rates, consumer prices, and industrial growth. As we will see, opinions about cost-of-service pricing tend to vacillate, but the concept does win majority support to the extent that people accept the idea that cost-of-service electric rates for industry might benefit the public as a whole.

Contradictory attitudes toward cost-of-service pricing

We began our inquiry into the subject of cost-of-service pricing with a very general question that simply asked people how much relationship they feel there should be between the cost of delivering electricity and the price charged for it. As the table shows, only about a quarter of the population feel that cost should be the total basis for pricing though nearly another third feel it should form most of the basis. Interestingly, nearly two out of every five Americans feel cost should be at most only somewhat of a factor in price setting.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

Totally	28%
Mostly	30
Somewhat	35
Not at all	4
(Don't know)	3

Demographic breakdowns show few clear patterns. Residents of the South and Pacific areas are slightly more inclined than people living in other areas to feel that electricity pricing should be based on the cost to the utility, but the differences are relatively small. A complete demographic analysis follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

- | | |
|-------------|---------------|
| 1. TOTALLY | 2. MOSTLY |
| 3. SOMEWHAT | 4. NOT AT ALL |
| 5. DK | |

Responses = 1000

1. 2. 3. 4. 5.

MARGINALS

28 30 35 4 3

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	100	0	0	0	0
30	MOSTLY	0	100	0	0	0
35	SOMEWHAT	0	0	100	0	0
4	NOT AT ALL	0	0	0	100	0
3	DK	0	0	0	0	100

27. SEX

50	FEMALE	27	31	37	3	2
50	MALE	30	29	33	5	3

28. EDUCATION

6	SOME GRADE	31	26	30	3	10
8	SOME HIGH	29	24	34	6	6
37	HIGH GRAD	28	28	38	4	2
2	TECH-VOC	44	28	22	0	6
21	SOME COLLEGE	26	34	34	3	3
17	COLLEGE GRAD	32	29	36	2	1
9	GRAD SCHOOL	26	38	31	3	2
0	DK	0	50	25	25	0

29. INCOME

8	\$0-6999	25	24	41	5	5
9	\$7-9999	28	32	35	1	4
7	\$10-12999	25	32	38	4	1
7	\$13-14999	22	29	46	3	0
13	\$15-19999	31	33	33	2	2
14	\$20-24999	28	33	33	3	3
35	\$25000 AND OVER	32	30	33	4	1
6	REFUSED	20	29	30	9	13
2	DK	21	21	37	11	11

30. AGE

17	18-25	26	34	36	4	1
26	26-35	26	34	35	4	0
16	36-45	30	26	37	2	5
17	46-55	32	24	37	5	2
11	56-65	36	26	31	4	4
12	OVER 65	22	34	34	3	8
1	REFUSED	40	30	10	10	10

Price based on utility's costs (continued)

- | | |
|-------------|---------------|
| 1. TOTALLY | 2. MOSTLY |
| 3. SOMEWHAT | 4. NOT AT ALL |
| 5. DK | |

Responses = 1000

	1.	2.	3.	4.	5.
MARGINALS	28	30	35	4	3
AREA					
15 NORTHEAST	30	24	37	5	4
24 INDUSTRIAL	29	26	39	3	2
13 MIDLANDS	20	39	37	2	2
22 SOUTH	35	30	30	3	2
14 CENTRAL	23	31	36	6	4
13 PACIFIC	29	36	28	4	2

Contradictions begin to emerge, however, when we ask people about one of the controversial issues raised by cost-of-service pricing--whether large industrial users, who cost less to service than residential users, should be charged less for electricity. As the table shows, a large majority of Americans say all customers--residential and industrial alike--should be charged the same unit price, rather than a price based on cost-of-service. Only about a third of the population support the idea of charging a lower price to industrial users who cost less to supply.

In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high-volume, high-voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less, or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

Favor system of charging industrial users less	35%
(Don't know)	2
Favor charging all users same amount for each unit of electricity	63

Demographic breakdowns show that higher income and better educated people are somewhat more inclined than their counterparts to back the idea of charging industrial customers less than residential customers for electricity. Men are also slightly more likely than women to take this position. A complete demographic analysis follows.

In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

1. CHARGE IND LESS
3. CHARGE ALL SAME

2. DK

Responses = 1000

	1.	2.	3.
MARGINALS	35	2	63

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	36	0	64
30	MOSTLY	38	1	60
35	SOMEWHAT	31	4	66
4	NOT AT ALL	35	0	65
3	DK	21	21	57

27. SEX

50	FEMALE	30	2	68
50	MALE	39	2	58

28. EDUCATION

6	SOME GRADE	20	7	74
8	SOME HIGH	20	1	79
37	HIGH GRAD	27	2	71
2	TECH-VOC	28	0	72
21	SOME COLLEGE	42	1	56
17	COLLEGE GRAD	45	3	52
9	GRAD SCHOOL	51	1	48
0	DK	50	0	50

29. INCOME

8	\$0-6999	14	4	82
9	\$7-9999	33	0	67
7	\$10-12999	31	1	68
7	\$13-14999	24	1	75
13	\$15-19999	31	2	68
14	\$20-24999	33	3	64
35	\$25000 AND OVER	47	2	51
6	REFUSED	27	5	68
2	DK	21	11	68

Which system for industrial users (continued)

1. CHARGE IND LESS
3. CHARGE ALL SAME

2. DK

Responses = 1000

1. 2. 3.

MARGINALS

35 2 63

30. AGE

17	18-25	34	0	66
26	26-35	32	3	65
16	36-45	39	2	59
17	46-55	36	3	61
11	56-65	36	1	63
12	OVER 65	32	5	63
1	REFUSED	30	0	70

AREA

15	NORTHEAST	30	4	66
24	INDUSTRIAL	30	3	67
13	MIDLANDS	46	1	53
22	SOUTH	32	2	66
14	CENTRAL	37	0	63
13	PACIFIC	38	2	60

Interestingly, the change in attitudes between the last two questions is even stronger than the overall numbers make it appear. As the next table shows, there is virtually no relationship between people's general attitudes toward cost-of-service pricing and their specific attitudes about having a pricing differential between industrial and residential customers.

Views about cost-of-service pricing and industrial electricity rates

	<u>Preferred pricing system</u>		
	<u>Charge industry less</u>	<u>(Don't know)</u>	<u>Charge all users the same</u>
<u>How much should pricing be based on cost of service?</u>			
Totally	36%	—	64
Mostly	38%	1	60
Somewhat	31%	4	66
Not at all	35%	—	65

The public's opposition to price differentials holds firm when we ask about it in another context--lower prices for lower income people. As the next table shows, a large, nearly two-to-one majority come out against the idea of giving low-income people a break on electricity prices.

Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

Pay less	33%
(Don't know)	2
Pay the same	64

Demographic breakdowns show that lower income and less educated people are the groups most likely to favor this proposal. Residents of the Northeast are also more supportive of the idea than are people living in other sections of the country. A complete demographic analysis follows.

Do you think that poorer people should pay less for the electricity they use
or do you think that they should pay the same rates as other users?

1. PAY LESS
3. PAY THE SAME

2. DK

Responses = 1001

1. 2. 3.

MARGINALS

33 2 64

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	27	2	70
30	MOSTLY	32	4	64
35	SOMEWHAT	37	1	62
4	NOT AT ALL	46	0	54
3	DK	36	4	61

27. SEX

50	FEMALE	34	3	63
50	MALE	32	2	65

28. EDUCATION

6	SOME GRADE	51	3	46
8	SOME HIGH	49	5	46
36	HIGH GRAD	36	3	61
2	TECH-VOC	39	0	61
21	SOME COLLEGE	32	1	67
17	COLLEGE GRAD	21	2	77
9	GRAD SCHOOL	21	4	74
0	DK	0	0	100

29. INCOME

8	\$0-6999	46	8	47
9	\$7-9999	51	1	48
7	\$10-12999	40	1	58
7	\$13-14999	35	3	63
13	\$15-19999	39	2	60
14	\$20-24999	28	3	69
35	\$25000 AND OVER	26	2	72
6	REFUSED	20	2	79
2	DK	32	11	58

30. AGE

17	18-25	36	1	63
26	26-35	30	1	69
16	36-45	30	1	68
17	46-55	36	4	60
11	56-65	36	2	62
12	OVER 65	32	8	60
1	REFUSED	20	0	80

Poorer people pay for electricity (continued)

1. PAY LESS
3. PAY THE SAME

2. DK

Responses = 1001

1. 2. 3.

MARGINALS

33 2 64

AREA

14 NORTHEAST
24 INDUSTRIAL
13 MIDLANDS
21 SOUTH
14 CENTRAL
13 PACIFIC

40 3 57
34 2 64
33 3 64
33 1 66
30 2 68
28 4 67

One alternative to charging lower income people less for electricity would be a more traditional welfare-style program, in which the government would subsidize basic electric service for poorer people. The next table shows that, notwithstanding the conservative trend that many observers see emerging in the United States, this idea wins majority approval.

It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

Strongly favor	26%
Somewhat favor	34
Somewhat oppose	20
Strongly oppose	19
(Don't know)	1

Demographic breakdowns again show that lower income and less educated people--those who would benefit from the proposal--are also the most supportive of it. A complete demographic analysis follows.

It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

1. STRONGLY FAVOR
3. OPPOSE
5. DK

2. FAVOR
4. STRONGLY OPPOSE

Responses = 1001

	1.	2.	3.	4.	5.
MARGINALS	26	34	20	19	1

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	27	31	16	24	2
30	MOSTLY	22	36	25	17	0
35	SOMEWHAT	26	36	22	15	1
4	NOT AT ALL	41	27	14	19	0
3	DK	25	18	11	32	14

27. SEX

50	FEMALE	26	37	18	17	2
50	MALE	26	31	22	20	1

28. EDUCATION

6	SOME GRADE	49	20	11	20	0
8	SOME HIGH	43	33	10	11	4
36	HIGH GRAD	28	36	18	16	2
2	TECH-VOC	11	39	28	22	0
21	SOME COLLEGE	18	36	26	19	0
17	COLLEGE GRAD	24	33	18	24	1
9	GRAD SCHOOL	11	31	30	24	3
0	DK	0	50	25	0	25

29. INCOME

8	\$0-6999	51	24	16	9	0
9	\$7-9999	45	28	12	14	1
7	\$10-12999	33	38	15	14	0
7	\$13-14999	21	40	25	14	0
13	\$15-19999	27	30	24	19	0
14	\$20-24999	20	41	21	14	4
35	\$25000 AND OVER	16	37	22	24	0
6	REFUSED	25	23	18	27	7
2	DK	37	16	11	21	16

30. AGE

17	18-25	22	36	28	11	2
26	26-35	25	37	21	16	0
16	36-45	20	34	24	22	1
17	46-55	26	33	14	26	1
11	56-65	32	28	20	20	1
12	OVER 65	33	32	13	18	3
1	REFUSED	20	10	20	30	20

Program to help poorer pay (continued)

1. STRONGLY FAVOR
3. OPPOSE
5. DK

2. FAVOR
4. STRONGLY OPPOSE

Responses = 1001

1. 2. 3. 4. 5.

MARGINALS

26 34 20 19 1

AREA

14	NORTHEAST	28	35	20	16	1
24	INDUSTRIAL	28	33	21	17	1
13	MIDLANDS	22	37	23	16	2
21	SOUTH	27	31	17	24	2
14	CENTRAL	26	36	20	17	2
13	PACIFIC	22	34	22	22	1

The costs of electricity for industry: who pays, who benefits?

As we have just seen, support for the general principle of cost-of-service pricing breaks down when respondents are told that in many parts of the country the per unit cost of electricity to industry is lower than for residential customers. Therefore, it is important to examine in more detail the relationships people see among utility rates, consumer prices, and industrial growth.

First of all, the responses to our next question show most people believe that the electricity rates paid by industry have at least some impact on the prices consumers pay.

How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

A large effect	25%
Some effect	55
Hardly any effect	11
No effect at all	6
(Don't know)	2

In response to our next question, which includes the statement that higher electricity rates for industry will simply be passed on to consumers, a majority come out against such increases in industrial utility rates. Interestingly, however, four out of ten Americans express support for raising industrial utility rates even if those added costs are passed on in higher consumer prices.

Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact this did lead to increased prices for the goods and services industries produce?

Strongly favor	12%
Somewhat favor	27
Somewhat oppose	29
Strongly oppose	30
(Don't know)	3

Demographic breakdowns show that lower income and less educated people are somewhat more strongly in favor of raising industrial rates under these conditions than are their counterparts. A full demographic breakdown follows.

Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact this did lead to increased prices for the goods and services industries produce?

1. STRONGLY FAVOR
3. OPPOSE
5. DK

2. FAVOR
4. STRONGLY OPPOSE

Responses = 1000

1. 2. 3. 4. 5.

MARGINALS

12 27 29 30 3

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	14	26	23	36	1
30	MOSTLY	12	25	32	28	3
35	SOMEWHAT	9	30	32	25	3
4	NOT AT ALL	11	19	17	47	6
3	DK	11	21	25	29	14

27. SEX

50	FEMALE	12	27	30	28	3
50	MALE	11	27	27	32	3

28. EDUCATION

6	SOME GRADE	15	30	18	28	10
8	SOME HIGH	10	31	20	31	8
36	HIGH GRAD	10	31	29	27	2
2	TECH-VOC	6	22	28	44	0
21	SOME COLLEGE	13	23	34	28	1
17	COLLEGE GRAD	16	21	27	33	2
9	GRAD SCHOOL	10	22	32	33	2
0	DK	0	0	0	100	0

29. INCOME

8	\$0-6999	20	19	25	27	9
9	\$7-9999	10	24	29	35	1
7	\$10-12999	11	40	22	24	3
7	\$13-14999	17	22	26	33	1
13	\$15-19999	11	31	28	27	2
14	\$20-24999	14	29	33	22	3
35	\$25000 AND OVER	8	25	30	35	2
6	REFUSED	20	25	25	21	9
2	DK	0	21	32	42	5

30. AGE

17	18-25	8	27	31	33	2
26	26-35	12	33	30	25	0
16	36-45	16	23	29	29	2
17	46-55	8	26	25	36	5
11	56-65	16	20	31	32	2
12	OVER 65	11	26	27	27	9
1	REFUSED	20	20	0	40	20

Raise industrial rate-increased price (continued)

1. STRONGLY FAVOR
3. OPPOSE
5. DK

2. FAVOR
4. STRONGLY OPPOSE

Responses = 1000

1. 2. 3. 4. 5.

MARGINALS

12 27 29 30 3

AREA

15 NORTHEAST
24 INDUSTRIAL
13 MIDLANDS
22 SOUTH
14 CENTRAL
13 PACIFIC

17 23 20 36 4
11 25 31 31 2
8 27 26 35 4
13 29 26 31 1
8 29 35 23 4
13 27 34 22 3

Still another aspect of the industrial electric rate issue arises from the fact that rates are set at the state level rather than at the federal level. A state that raises electricity rates for industry runs the risk that business will move to a state with lower rates or that outside business will be discouraged from moving in.

We approached this issue by asking our respondents how much attention they think industry pays to electricity rates in making decisions about where to locate. As the next table shows, most people feel businesses pay at least some attention to electricity rates in decisions of this kind--assuming other costs to be roughly equal.

Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

A lot of attention	28%
Some attention	44
Only a little attention	15
No attention at all	12
(Don't know)	1

Given this belief, we asked our sample whether they would favor raising industrial electricity rates if this would in fact hurt the potential for new jobs and industry in their area. Not surprisingly, most people, almost six out of ten, reject the idea of higher rates in this context. Again, though, it is interesting that four out of every ten people support raising industrial electricity rates despite the risks of unemployment and factory relocation.

Thinking about this area—would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use—thus holding down the increase in residential rates—if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

Favor	37%
(Don't know)	4
Oppose	59

Although the demographic breakdowns for this question reveal few clear patterns, a complete analysis of them follows.

Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

1. FAVOR 2. DK
3. OPPOSE

Responses = 998

1. 2. 3.

MARGINALS 37 4 59

18. PRICE BASED ON UTILITY'S COSTS

28	TOTALLY	38	2	60
30	MOSTLY	34	3	63
35	SOMEWHAT	39	5	56
4	NOT AT ALL	39	3	58
3	DK	36	29	36

27. SEX

50	FEMALE	36	4	60
50	MALE	38	5	57

28. EDUCATION

6	SOME GRADE	34	5	61
8	SOME HIGH	38	6	56
36	HIGH GRAD	40	5	55
2	TECH-VOC	22	0	78
21	SOME COLLEGE	38	1	61
17	COLLEGE GRAD	35	6	59
9	GRAD SCHOOL	33	2	65
0	DK	25	0	75

29. INCOME

8	\$0-6999	39	9	52
9	\$7-9999	37	2	60
7	\$10-12999	39	8	53
7	\$13-14999	47	0	53
13	\$15-19999	38	4	58
14	\$20-24999	34	6	60
35	\$25000 AND OVER	34	2	64
6	REFUSED	46	13	41
2	DK	21	5	74

30. AGE

17	18-25	43	3	54
26	26-35	38	3	60
16	36-45	41	6	53
17	46-55	32	4	65
11	56-65	42	3	55
12	OVER 65	26	9	65
1	REFUSED	30	10	60

Lower rates if companies leave area (continued)

1. FAVOR	2. DK		
3. OPPOSE			
Responses = 998	1.	2.	3.
MARGINALS	37	4	59
AREA			
15 NORTHEAST	39	7	54
24 INDUSTRIAL	38	7	55
13 MIDLANDS	41	2	57
22 SOUTH	32	2	66
14 CENTRAL	41	3	56
13 PACIFIC	32	5	63

In both this last question, then, and the earlier one about raising industrial rates even if it does lead to higher prices, six out of ten Americans feel that industry's charges for electricity should be based on what it actually costs the electric utility to supply them with their electricity. However, just under 40% take the opposite position.

Our final question approached this issue directly by explicitly asking people whether they would be willing to sacrifice the promise of higher industrial growth and more jobs in their area in return for the lower electric bills that might result from not allowing cost-of-service pricing for industry. As the next table shows, even with this strongly worded tradeoff, just over one-third of the population are still in favor of having industry pay more for its electricity than it costs to supply them with their power. Nearly twice that number reject this idea and instead opt for the promise of more economic growth.

Let's say there was a clear choice--your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

Strongly favor	9%
Somewhat favor	26
Somewhat oppose	35
Strongly oppose	28
(Don't know)	3

Demographic breakdowns show that better educated people are more likely than their counterparts to favor the promise of more industrial growth over lower electricity rates for themselves. A complete demographic analysis follows.

Let's say there was a clear choice—your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

- | | |
|-------------------|--------------------|
| 1. STRONGLY FAVOR | 2. FAVOR |
| 3. OPPOSE | 4. STRONGLY OPPOSE |
| 5. DK | |

Responses = 1000

	1.	2.	3.	4.	5.
MARGINALS	9	26	35	28	3
18. PRICE BASED ON UTILITY'S COSTS					
28 TOTALLY	9	20	31	39	2
30 MOSTLY	7	26	39	25	3
35 SOMEWHAT	8	34	36	20	3
4 NOT AT ALL	14	11	27	46	3
3 DK	21	18	36	14	11
27. SEX					
50 FEMALE	8	29	38	23	3
50 MALE	9	23	32	33	3
28. EDUCATION					
6 SOME GRADE	8	21	36	31	3
8 SOME HIGH	16	36	25	20	3
37 HIGH GRAD	10	29	35	24	2
2 TECH-VOC	0	33	28	33	6
21 SOME COLLEGE	7	21	41	30	1
17 COLLEGE GRAD	7	25	32	31	5
9 GRAD SCHOOL	7	22	36	33	2
0 DK	0	25	0	75	0
29. INCOME					
8 \$0-6999	14	20	29	28	9
9 \$7-9999	8	23	34	34	1
7 \$10-12999	8	25	43	21	3
7 \$13-14999	10	38	31	22	0
13 \$15-19999	8	27	40	24	2
14 \$20-24999	7	30	30	30	2
35 \$25000 AND OVER	7	23	37	30	3
6 REFUSED	11	27	34	20	9
2 DK	5	37	26	32	0
30. AGE					
17 18-25	9	27	39	25	0
26 26-35	6	26	39	28	1
16 36-45	9	32	27	29	3
17 46-55	10	22	36	29	2
11 56-65	12	23	34	29	3
12 OVER 65	8	26	31	26	9
1 REFUSED	0	10	20	40	30

Industrial users pay more than costs (continued)

- | | |
|-------------------|--------------------|
| 1. STRONGLY FAVOR | 2. FAVOR |
| 3. OPPOSE | 4. STRONGLY OPPOSE |
| 5. DK | |

Responses = 1000

1. 2. 3. 4. 5.

MARGINALS

9 26 35 28 3

AREA

15	NORTHEAST	10	20	32	35	2
24	INDUSTRIAL	9	26	34	28	4
13	MIDLANDS	9	27	36	27	2
22	SOUTH	12	27	32	27	3
14	CENTRAL	2	30	40	24	4
13	PACIFIC	8	27	39	24	2

In the questions discussed in this section, then, we have seen that Americans generally go along with the idea of cost-of-service pricing in the abstract, but come out against it when they discover that industry might as a result pay less on a per unit basis than residential customers. Majorities once again come out in favor of this pricing system in response to a series of questions stating the view that the public might benefit as well because of lower consumer prices and increased jobs (though even here a large minority of diverse people consistently oppose cost-of-service pricing despite these promises). Our findings therefore indicate that majority support for cost-of-service pricing will develop only if people believe that they, as well as industry, will receive clear benefits from this concept.

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all				Very difficult			[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
Alabama	20%	14	17	11	18	5	13	2
California	22%	13	16	15	18	7	7	2
Connecticut	28%	10	17	15	13	6	7	4
Louisiana	24%	10	14	14	21	6	8	4
Ohio	26%	16	20	13	14	3	5	2
West Virginia	33%	16	13	13	15	4	5	1

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all				Very difficult			[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
Alabama	9%	8	11	7	17	12	32	4
California	9%	4	10	10	14	17	33	4
Connecticut	15%	4	10	9	16	14	22	10
Louisiana	10%	8	8	8	16	11	33	5
Ohio	13%	8	11	7	20	15	19	6
West Virginia	16%	10	11	11	16	10	19	7

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
Alabama	26%	53	14	5	1
California	19%	51	19	7	4
Connecticut	24%	52	18	3	2
Louisiana	21%	52	17	7	3
Ohio	33%	51	11	4	1
West Virginia	57%	38	3	2	—

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
Alabama	16%	36	25	19	3
California	18%	31	24	25	2
Connecticut	18%	32	23	24	3
Louisiana	17%	36	20	22	4
Ohio	11%	37	27	22	2
West Virginia	12%	28	25	31	4

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
Alabama	32%	48	13	4	2
California	46%	43	6	4	1
Connecticut	50%	39	8	2	1
Louisiana	42%	42	8	5	3
Ohio	34%	49	8	6	3
West Virginia	39%	47	9	3	2

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	Very, very bad				Very, very good			[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	—
Alabama	9%	3	11	18	24	17	17	—
California	5%	5	8	20	23	19	19	1
Connecticut	6%	4	12	14	28	14	18	3
Louisiana	7%	5	8	16	22	17	23	1
Ohio	5%	3	8	16	29	17	22	—
West Virginia	3%	3	6	12	24	20	32	—

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
Alabama	6%	30	23	22	5	7	2	2	2	2
California	38%	30	13	8	1	2	1	—	1	6
Connecticut	14%	43	16	10	4	2	1	1	1	10
Louisiana	5%	20	22	24	11	7	3	3	2	4
Ohio	21%	39	16	8	2	2	2	1	1	8
West Virginia	22%	45	16	10	2	1	1	—	—	4

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
Alabama	33%	43	22	1	1	—
California	26%	33	36	3	2	1
Connecticut	33%	42	20	1	1	3
Louisiana	37%	31	30	1	—	1
Ohio	27%	39	29	3	—	1
West Virginia	16%	36	44	3	1	1

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Alabama	45%	7	48
California	25%	6	70
Connecticut	29%	10	62
Louisiana	32%	7	61
Ohio	18%	6	76
West Virginia	17%	5	78

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
Alabama	45%	9	45
California	41%	8	51
Connecticut	41%	12	47
Louisiana	40%	13	48
Ohio	45%	8	47
West Virginia	31%	15	53

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
Alabama	51%	38	7	4	1
California	58%	34	6	2	1
Connecticut	63%	30	5	1	1
Louisiana	58%	31	7	3	2
Ohio	51%	42	4	2	1
West Virginia	51%	38	9	2	1

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
Alabama	38%	34	14	11	3
California	45%	34	13	7	2
Connecticut	59%	26	10	5	1
Louisiana	44%	35	15	5	2
Ohio	41%	30	19	9	1
West Virginia	43%	25	17	11	3

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Alabama	47%	36	11	4	2
California	44%	33	13	7	3
Connecticut	38%	36	16	7	3
Louisiana	50%	31	10	6	3
Ohio	54%	31	10	3	1
West Virginia	49%	32	12	4	4

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
Alabama	46%	35	12	4	2
California	41%	37	15	5	2
Connecticut	37%	41	14	6	2
Louisiana	41%	35	15	6	3
Ohio	48%	36	11	3	2
West Virginia	50%	31	10	4	4

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
Alabama	38%	33	19	6	4
California	32%	31	19	15	3
Connecticut	37%	30	18	10	4
Louisiana	34%	35	17	10	4
Ohio	33%	31	24	8	4
West Virginia	33%	27	21	12	7

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
Alabama	52%	33	10	4	1
California	33%	38	18	8	3
Connecticut	44%	33	14	7	2
Louisiana	41%	34	16	4	5
Ohio	45%	37	11	5	2
West Virginia	65%	25	9	2	2

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Alabama	27%	46	25	1	1	—
California	19%	36	40	4	1	—
Connecticut	27%	42	26	1	1	2
Louisiana	28%	37	30	2	1	1
Ohio	19%	46	30	3	1	1
West Virginia	13%	34	50	2	1	1

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Alabama	36%	21	38	4	2
California	29%	31	34	5	2
Connecticut	31%	27	35	3	4
Louisiana	33%	20	36	4	7
Ohio	31%	31	32	3	3
West Virginia	32%	24	35	5	3

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
Alabama	34%	2	64
California	32%	3	64
Connecticut	28%	3	69
Louisiana	33%	3	65
Ohio	36%	3	61
West Virginia	33%	4	63

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
Alabama	29%	31	17	22	2
California	21%	38	18	21	1
Connecticut	24%	36	21	18	1
Louisiana	29%	31	14	24	2
Ohio	22%	35	22	20	2
West Virginia	24%	38	18	18	2

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Other say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
Alabama	32%	2	65
California	36%	1	62
Connecticut	36%	2	62
Louisiana	29%	3	69
Ohio	35%	1	64
West Virginia	32%	1	67

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
Alabama	27%	52	9	10	1
California	28%	54	10	6	2
Connecticut	27%	50	12	6	4
Louisiana	26%	51	10	8	5
Ohio	27%	51	15	4	3
West Virginia	27%	52	12	6	3

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
Alabama	11%	25	33	29	2
California	15%	25	29	28	3
Connecticut	12%	22	29	32	5
Louisiana	13%	26	29	27	5
Ohio	10%	29	29	28	3
West Virginia	13%	28	30	25	4

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Alabama	36%	41	12	9	2
California	31%	40	15	12	2
Connecticut	26%	40	18	13	3
Louisiana	34%	37	11	15	3
Ohio	30%	46	12	11	2
West Virginia	29%	41	19	10	1

25. Thinking about this area—would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use—thus holding down the increase in residential rates—if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
Alabama	40%	4	56
California	37%	4	58
Connecticut	31%	6	63
Louisiana	34%	5	60
Ohio	34%	5	61
West Virginia	33%	4	63

26. Let's say there was a clear choice—your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
Alabama	9%	24	40	25	2
California	10%	26	32	27	4
Connecticut	9%	23	37	28	4
Louisiana	9%	24	32	30	4
Ohio	10%	24	34	28	3
West Virginia	9%	24	37	27	2

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
Alabama	53%	47
California	50%	50
Connecticut	51%	49
Louisiana	51%	49
Ohio	53%	47
West Virginia	50%	50

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	—
Alabama	8%	15	36	3	19	12	5	1
California	1%	7	31	1	33	18	9	—
Connecticut	4%	8	33	3	20	23	8	1
Louisiana	7%	16	35	2	17	15	6	—
Ohio	5%	10	43	3	18	15	6	—
West Virginia	11%	12	43	2	14	12	6	1

29. In which of the categories I read is the total annual income of this entire household—of everyone living in this house? [READ RESPONSES]

1. \$0-6,999	2. \$7- 9,999	3. \$10-12,999
4. \$13-14,999	5. \$15-19,999	6. \$20-24,999
7. \$25,000 and over	8. (Refused)	9. (Don't know)

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
Alabama	13%	10	8	8	14	16	23	6	3
California	9%	5	6	6	12	13	43	4	2
Connecticut	6%	9	7	7	14	12	32	9	4
Louisiana	10%	8	8	7	14	14	30	5	4
Ohio	7%	7	10	7	13	17	30	7	1
West Virginia	10%	11	10	7	16	14	25	3	3

30. What is your age? [RECORD IN PROPER CATEGORY]

1. 18-25	2. 26-35	3. 36-45
4. 46-55	5. 56-65	6. Over 65
7. (Refused)		

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
Alabama	18%	20	16	17	15	12	1
California	19%	28	18	12	12	10	1
Connecticut	18%	22	16	14	15	15	—
Louisiana	21%	23	15	14	12	14	1
Ohio	18%	24	16	14	15	12	1
West Virginia	18%	22	14	18	17	10	1



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Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**

ALABAMA



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Preface

Electricity has become an issue of increasing public concern. After decades of *declining* prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. In Alabama, for example, residential rates rose 167% from 1972 to 1980. Commercial rates increased 168% and industrial rates escalated 283% in the same period.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Alabamians say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- More than 7 out of 10 Alabamians recognize that industry pays attention—3 in 10 saying "a lot of attention"—to what the electric rates are when making a plant location decision.
- Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- About 8 out of 10 Alabamians recognize that the prices charged by industry are affected by what industry pays for electricity—one in four saying "a large effect." And 6 out of 10 would oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the decline in the growth and competitiveness of our economy. The

results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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MONITION

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Introduction

This an analysis of a survey of public attitudes toward the problem of electricity supply and cost in Alabama and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 371 adults scientifically selected to reflect the attitudes of the entire over-18, non-institutionalized population of Alabama. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about supply of electricity in Alabama;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 15% or less on charts where the base population is approximately 371, conclusions based on these responses should be made with caution, as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referral;
- * Demographic charts discussed, but not included, in the text are available upon request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% due to rounding.

Summary

This survey of the attitudes of Alabama residents toward electric utility issues was conducted simultaneously with a national survey using the same questionnaire. The full analysis of the national survey results can be found in the report "Public Attitudes about Electric Utility Issues." The present report highlights how the attitudes of Alabama residents revealed in the survey compare to the attitudes of the American public as a whole.

On the major points of the survey, we find that the views of the citizens of Alabama closely resemble those of all Americans.

Alabama residents differ from the nation as a whole in two major areas of the survey. First, they are somewhat more concerned about electricity costs than the nation as a whole, and somewhat more inclined to describe those costs as high.

Alabama residents are also somewhat more likely than Americans as a whole to feel business will take electricity costs into account in deciding where to locate or expand plants. This could be a result of their "Sunbelt" experience over the last decade, which may have made them aware of the extent to which business really does consider costs.

In terms of attitudes toward cost-of-service pricing, Alabama residents are somewhat more likely than other people to agree with the overall concept, but otherwise their responses follow the national pattern. That is, while they support the overall concept of cost-of-service pricing, they are skeptical when they learn that industry might, as a result, pay a lower per unit price for electricity than residential customers. Only when they see benefits for themselves--in terms of lower prices for consumer goods or greater economic development--do they favor cost-of-service pricing as a practical choice.

The Problem of Electricity Supplies

The first part of our survey checked people's expectations about electricity supply problems in their area, both now and over the long term, and we then went on to ask people how they feel about various ways of ensuring adequate supplies of electricity.

The responses to these questions reveal no significant differences between the views of Alabama residents and the views of the American public as a whole. Like all Americans, people living in Alabama are much more concerned about the difficulty of ensuring electricity supplies in 10 years' time than they are about the difficulty of maintaining supplies today. And, likewise reflecting the opinions of the public as a whole, citizens of Alabama strongly prefer to expand--or extend--electricity supplies by increased conservation and increased use of coal rather than by increased reliance on nuclear power.

Electric Utilities and Their Rates

The second part of our survey, which tested people's perceptions about electric rates and about the possible causes of rate increases, does reveal some notable differences between Alabama residents and the nation as a whole.

First of all, people in Alabama are significantly more likely than people in the nation as a whole to feel that electricity costs are rising faster than other prices. Indeed, while the general public is convinced by more than a two-to-one margin that prices of other things are increasing faster, Alabama residents are almost evenly divided on the question.

Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Alabama	45%	7	48

Demographic breakdowns show that this sentiment is fairly uniform throughout the Alabama population. Respondents earning more than \$20,000 per year are only slightly less likely than poorer respondents to see the price of electricity rising higher than the price of other things. A complete demographic analysis follows.

Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

1. COST OF ELECTRICITY
3. COST OF OTHERS

2. DK

Responses = 370

1. 2. 3.

MARGINALS

45 7 48

18. PRICE BASED ON UTILITY'S COSTS

35	TOTALLY	50	5	44
21	MOSTLY	39	8	53
38	SOMEWHAT	43	6	50
4	NOT AT ALL	62	8	31
2	DK	33	50	17

27. SEX

53	FEMALE	47	6	47
47	MALE	44	8	48

28. EDUCATION

24	SOME HIGH	45	8	47
39	HIGH GRAD	45	5	50
19	SOME COLLEGE	49	6	45
18	COLLEGE PLUS	45	9	46
1	DK	33	33	33

29. INCOME

23	0-9999	48	7	45
30	10-19999	50	5	45
38	20K AND OVER	40	6	53
9	REFUSED	47	16	38

30. AGE

38	18-35	44	4	53
32	36-55	47	8	45
28	55 AND OVER	47	9	45
1	REFUSED	25	50	25

Citizens of Alabama are also somewhat more convinced than other Americans that their electric bills are too high. As the next table shows, the number who say their bills are very or somewhat high is 7 points greater than in the nation as a whole.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Alabama	27%	46	25	1	1	--

Demographic breakdowns show that lower-income and less-educated Alabama residents are particularly inclined to feel their electric bills are high. Women are also significantly more likely than men to feel their bills are high despite benefits they receive from electricity. A complete demographic analysis follows.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

1. VERY HIGH
3. ABOUT RIGHT
5. VERY LOW

2. SOMEWHAT HIGH
4. SOMEWHAT LOW

Responses = 370

1. 2. 3. 4. 5.

MARGINALS

27 46 25 1 1

18. PRICE BASED ON UTILITY'S COSTS

35	TOTALLY	31	40	27	1	2
21	MOSTLY	23	51	27	0	0
38	SOMEWHAT	26	51	22	1	0
4	NOT AT ALL	23	31	46	0	0
2	DK	17	67	17	0	0

27. SEX

53	FEMALE	32	45	22	1	1
47	MALE	22	49	29	0	1

28. EDUCATION

24	SOME HIGH	38	31	30	0	1
39	HIGH GRAD	27	50	23	0	0
19	SOME COLLEGE	17	52	26	3	1
18	COLLEGE PLUS	21	55	24	0	0
1	DK	33	33	33	0	0

29. INCOME

23	0-9999	34	36	28	1	0
30	10-19999	31	50	18	1	1
38	20K AND OVER	18	49	32	0	1
9	REFUSED	34	53	13	0	0

30. AGE

38	18-35	22	50	27	1	1
33	36-55	32	47	21	0	0
28	55 AND OVER	28	40	29	1	1
1	REFUSED	25	50	25	0	0

Utility Rate Issues

The third part of our survey focused on utility rate issues, particularly that of cost-of-service pricing. As the next table shows, when asked about the general theory of cost-of-service pricing, Alabama residents are more inclined than people in the nation as a whole to say electric rates should be based totally on costs. This difference is offset somewhat, however, by the fact that a smaller number of Alabama residents feel electric rates should be based mostly on cost.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Alabama	36%	21	38	4	2

Demographic breakdowns show that the sentiment that electric rates should be based entirely on cost is somewhat more prevalent among Alabama men than among women. People over 35 are also slightly more likely than younger people to feel this way. A complete demographic analysis follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

1. TOTALLY
3. SOMEWHAT
5. DK

2. MOSTLY
4. NOT AT ALL

Responses = 371

1. 2. 3. 4. 5.

MARGINALS

36 21 38 4 2

18. PRICE BASED ON UTILITY'S COSTS

36	TOTALLY	100	0	0	0	0
21	MOSTLY	0	100	0	0	0
38	SOMEWHAT	0	0	100	0	0
4	NOT AT ALL	0	0	0	100	0
2	DK	0	0	0	0	100

27. SEX

53	FEMALE	33	23	39	3	2
47	MALE	38	19	37	4	1

28. EDUCATION

23	SOME HIGH	37	14	39	8	2
39	HIGH GRAD	35	21	39	3	1
19	SOME COLLEGE	32	30	36	1	0
18	COLLEGE PLUS	38	24	36	0	2
1	DK	33	0	67	0	0

29. INCOME

23	0-9999	31	15	49	2	2
30	10-19999	40	21	35	4	1
38	20K AND OVER	35	25	35	5	0
9	REFUSED	34	22	34	0	9

30. AGE

38	18-35	32	24	39	5	0
33	36-55	38	21	34	4	2
28	55 AND OVER	39	17	42	1	2
1	REFUSED	0	25	50	0	25

This somewhat greater agreement with the general idea of cost-of-service pricing in Alabama may be due primarily to the fact that, as we see in the next table, Alabama residents are also more likely to feel industry pays a lot of attention to electricity prices in deciding where to build. Again, this may well be due to the fact that much of the boom in the South and West has been attributed to lower costs; respondents may have gained greater awareness of the cost-consciousness of industry by watching how it has moved into their own area to take advantage of lower costs.

Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Alabama	36%	41	12	9	2

Demographic breakdowns show that less-educated Alabama residents are actually more convinced than better-educated residents that industry pays a lot of attention to electricity costs in deciding where to locate. Older people are significantly more convinced of this than younger people. A complete demographic analysis follows.

Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

1. LOT OF ATTENTION
3. LITTLE ATTENTION
5. DK

2. SOME ATTENTION
4. NO ATTENTION AT ALL

Responses = 371

	1.	2.	3.	4.	5.
MARGINALS	36	41	12	9	2

18. PRICE BASED ON UTILITY'S COSTS

36	TOTALLY	41	33	14	9	3
21	MOSTLY	38	46	10	5	1
38	SOMEWHAT	33	44	12	10	1
4	NOT AT ALL	15	62	15	8	0
2	DK	33	50	0	17	0

27. SEX

53	FEMALE	37	36	16	9	2
47	MALE	35	47	8	8	2

28. EDUCATION

23	SOME HIGH	46	25	20	8	1
39	HIGH GRAD	33	48	7	8	3
19	SOME COLLEGE	32	49	12	7	0
18	COLLEGE PLUS	35	41	15	8	2
1	DK	0	33	0	67	0

29. INCOME

23	0-9999	33	38	19	9	1
30	10-19999	37	39	12	9	4
38	20K AND OVER	36	46	11	7	0
9	REFUSED	44	38	0	13	6

30. AGE

38	18-35	23	52	15	8	1
33	36-55	41	36	16	5	2
28	55 AND OVER	49	34	4	11	3
1	REFUSED	0	25	0	75	0

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
Alabama	20%	14	17	11	18	5	13	2

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
Alabama	9%	8	11	7	17	12	32	4

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
Alabama	26%	53	14	5	1

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
Alabama	16%	36	25	19	3

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
Alabama	32%	48	13	4	2

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	<u>Very, very bad</u>					<u>Very, very good</u>		<u>[DON'T KNOW]</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	--
Alabama	9%	3	11	18	24	17	17	--

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
Alabama	6%	30	23	22	5	7	2	2	2	2

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
Alabama	33%	43	22	1	1	--

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Alabama	45%	7	48

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
Alabama	45%	9	45

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
Alabama	51%	38	7	4	1

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
Alabama	38%	34	14	11	3

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Alabama	47%	36	11	4	2

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
Alabama	46%	35	12	4	2

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
Alabama	38%	33	19	6	4

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
Alabama	52%	33	10	4	1

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Alabama	27%	46	25	1	1	--

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Alabama	36%	21	38	4	2

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
Alabama	34%	2	64

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
Alabama	29%	31	17	22	2

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
Alabama	32%	2	65

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
Alabama	27%	52	9	20	1

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
Alabama	11%	25	33	29	2

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Alabama	36%	41	12	9	2

25. Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
Alabama	40%	4	56

26. Let's say there was a clear choice--your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
Alabama	9%	24	40	25	2

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
Alabama	53%	47

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	--
Alabama	8%	15	36	3	19	12	5	1

29. In which of the categories I read is the total annual income of this entire household--of everyone living in this house? [READ RESPONSES]

1. \$0-6,999	2. \$7-9,999	3. \$10-12,999							
4. \$13-14,999	5. \$15-19,999	6. \$20-24,999							
7. \$25,000 and over	8. (Refused)	9. (Don't know)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
Alabama	13%	10	8	8	14	16	23	6	3

30. What is your age? [RECORD IN PROPER CATEGORY]

1. 18-25	2. 26-35	3. 36-45					
4. 46-55	5. 56-65	6. Over 65					
7. (Refused)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
Alabama	18%	20	16	17	15	12	1



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Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**

CALIFORNIA



**Corporate Communications Department
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Preface

Electricity has become an issue of increasing public concern. After decades of *declining* prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. In California, for example, residential rates rose 140% from 1972 to 1980. Commercial rates have increased 228% and industrial rates escalated 364% in the same period.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Californians say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- About 7 out of 10 Californians recognize that industry pays attention—3 in 10 saying “a lot of attention”—to what the electric rates are when making a plant location decision.
- Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- About 8 out of 10 Californians recognize that the prices charged by industry are affected by what industry pays for electricity—3 in 10 saying “a large effect.” And nearly 6 out of 10 oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the decline in the growth and competitiveness of our economy. The

results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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MONITION

This analysis is provided for the internal use of Union Carbide Corporation, its employees and consultants.

Should Union Carbide release any portion of the analysis to any public medium, it is the responsibility of Union Carbide to ensure that the release is in strict conformity with that provided in these pages.

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CRI #1678

Introduction

This is an analysis of a survey of public attitudes toward the problem of electricity supply and cost in California and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 355 adults scientifically selected to reflect the attitudes of the entire over-18, non-institutionalized population of California. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about the supply of electricity in California;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 15% or less on charts where the base population is approximately 355, conclusions based on these responses should be made with caution, as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referrals;
- * Demographic charts discussed, but not included, in the text are available upon request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% due to rounding.

Summary

This survey of the attitudes of California residents toward electric utility issues was conducted simultaneously with a national survey using the same questionnaire. The full analysis of the national survey results can be found in the report "Public Attitudes about Electric Utility Issues." The present report highlights how the attitudes of California residents revealed in the survey compare to the attitudes of the American public as a whole.

On the major points of the survey, we find that the views of the citizens of California closely resemble those of all Americans. We do see significant differences, though, in the attitudes of Californians as they relate to energy supply and sources of energy.

First of all, Californians are more concerned than the nation as a whole about having an adequate supply of energy over the long term. This may well be a spinoff from the rapid population growth in California, which raises the spectre of shortages of such resources as water and land, as well as energy.

Californians also display much less enthusiasm than people living in other areas about coal as a source of electricity. Since they are as skeptical as the rest of the nation about nuclear power, this raises the problem of how their needs will be met in the future.

In terms of attitudes toward cost-of-service pricing, the pattern of California is similar to the national pattern. That is, California residents support the overall concept of cost-of-service pricing, but are skeptical when they learn that industry might, as a result, pay a lower per unit price for electricity than residential customers. Only when they see benefits for themselves--in terms of lower prices for consumer goods or greater economic development--do they truly favor cost-of-service pricing as a practical choice.

The Problem of Electricity Supplies

The first part of our survey checked people's expectations about electricity supply problems in their area, both now and over the long term, and we then went on to ask people how they feel about various ways of ensuring adequate supplies of electricity.

The responses to these questions reveal some significant differences between the views of California residents and the views of American public as a whole. Looking at the question of how difficult people feel it will be to have adequate electricity supplies in 10 years, we see that Californians are significantly more concerned than the nation as a whole. Nearly two out of three California residents place the problem on the "difficult" side of the scale.

How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
California	9%	4	10	10	14	17	33	4

Demographic breakdowns show that in California, women are significantly more concerned than men about the supply of electricity in a decade's time. Worry about supply problems also increases with the educational level of the respondent. Finally, people over age 55--quite understandably--display less concern than younger people about long-run energy supply problems. A complete demographic analysis follows.

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give: How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

- | | |
|-------------------|-------|
| 1. NOT DIFFICULT | 2. |
| 3. | 4. |
| 5. | 6. |
| 7. VERY DIFFICULT | 8. DK |

Responses = 354

	1.	2.	3.	4.	5.	6.	7.	8.
MARGINALS	9	4	10	10	14	17	33	4

18. PRICE BASED ON UTILITY'S COSTS

29 TOTALLY	10	5	10	9	16	16	29	4
31 MOSTLY	8	0	11	14	10	18	36	3
34 SOMEWHAT	8	7	7	8	15	18	33	3
5 NOT AT ALL	12	11	7	18	12	7	27	6
2 DK	0	0	35	0	0	0	50	15

27. SEX

50 FEMALE	6	3	7	10	12	15	42	4
50 MALE	11	5	13	10	15	18	23	4

28. EDUCATION

8 SOME HIGH	8	0	8	27	12	19	28	0
32 HIGH GRAD	6	3	11	6	16	16	38	4
33 SOME COLLEGE	9	4	7	16	11	18	32	3
27 COLLEGE PLUS	12	7	11	4	14	16	31	5
0 DK	0	0	100	0	0	0	0	0

29. INCOME

14 0-9999	6	4	12	8	15	13	34	8
24 10-19999	6	6	8	10	13	14	39	4
56 20K AND OVER	9	4	9	11	15	20	31	2
6 REFUSED	23	0	19	10	5	9	25	9

30. AGE

47 18-35	5	5	10	13	15	17	32	2
30 36-55	12	2	12	6	14	15	36	4
21 55 AND OVER	12	5	7	11	12	20	28	7
1 REFUSED	19	0	22	0	0	0	59	0

Turning to the issue of how to increase electricity supplies, we see another difference. While Californians do support the use of coal to generate electricity, they are clearly more skeptical than other Americans about this potential source of affordable electricity. As the next table shows, support for coal is 10 points lower in California than in the nation as a whole.

I'm going to read you a proposal for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose it: increasing our use of coal to generate electricity.

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
California	19%	51	19	7	4

Furthermore, demographic breakdowns show that support for coal drops among higher-income and better-educated people. A complete demographic analysis follows.

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one: increasing our use of coal to generate electricity.

1. STRONGLY FAVOR
3. OPPOSE
5. DK

2. FAVOR
4. STRONGLY OPPOSE

Responses = 353

1. 2. 3. 4. 5.

MARGINALS

19 51 19 7 4

18. PRICE BASED ON UTILITY'S COSTS

29	TOTALLY	25	44	20	9	1
30	MOSTLY	17	54	21	8	1
34	SOMEWHAT	16	55	17	3	8
5	NOT AT ALL	12	43	13	26	6
2	DK	18	50	32	0	0

27. SEX

50	FEMALE	19	51	18	8	5
50	MALE	19	51	21	7	2

28. EDUCATION

8	SOME HIGH	34	54	8	4	0
32	HIGH GRAD	26	49	16	5	4
33	SOME COLLEGE	18	47	23	7	5
27	COLLEGE PLUS	7	56	22	12	3
0	DK	0	100	0	0	0

29. INCOME

14	0-9999	20	52	10	9	8
24	10-19999	18	54	22	2	4
56	20K AND OVER	18	49	21	9	3
6	REFUSED	23	49	19	9	0

30. AGE

47	18-35	17	52	25	3	2
30	36-55	21	47	15	13	5
21	55 AND OVER	19	55	12	10	4
1	REFUSED	41	19	41	0	0

Electric Utilities and Their Rates

The second part of our survey, which tested people's perceptions about electric rates and about the possible causes of rate increases, reveals another difference between California residents and the nation as a whole.

Not surprisingly, given the responses we first looked at, Californians are significantly less likely than other Americans to blame current energy cost problems on the slow pace of conversion to coal. As the next table shows, the proportion of Californians who consider this is a very important factor in electricity price increases is 13 points lower than the proportion in the nation as a whole.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me whether you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the slow pace of conversion to greater use of coal to generate electricity.

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
California	33%	38	18	8	3

Demographic breakdowns show that, among Californians, men are somewhat more likely than women to say the failure to move more quickly to coal is a major cause of increased electricity prices. Poorer and less-educated people--who, as we have seen, are more likely than their counterparts to support coal--are also more likely to blame increased prices on the slow pace of conversion. Older people are significantly more likely than younger people to see the lack of effort in coal conversion as an important factor in higher prices. A complete demographic breakdown follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the slow pace of conversion to greater use of coal to generate electricity.

1. VERY IMPT	2. SOMEWHAT IMPT				
3. NOT VERY IMPT	4. NOT IMPT AT ALL				
5. DK					
Responses = 354	1. 2. 3. 4. 5.				
MARGINALS	33 38 18 8 3				
18. PRICE BASED ON UTILITY'S COSTS					
29 TOTALLY	37 37 17 9 1				
31 MOSTLY	26 40 21 8 5				
34 SOMEWHAT	35 39 16 7 4				
5 NOT AT ALL	48 19 26 7 0				
2 DK	18 50 0 18 15				
27. SEX					
50 FEMALE	30 43 17 6 4				
50 MALE	36 33 19 9 3				
28. EDUCATION					
8 SOME HIGH	53 36 8 3 0				
32 HIGH GRAD	36 35 16 9 4				
33 SOME COLLEGE	33 39 15 7 5				
27 COLLEGE PLUS	23 41 28 7 1				
0 DK	0 0 0 100 0				
29. INCOME					
14 0-9999	37 37 13 10 4				
24 10-19999	36 35 18 7 4				
56 20K AND OVER	31 38 20 7 3				
6 REFUSED	34 47 9 9 0				
30. AGE					
47 18-35	27 46 21 5 1				
30 36-55	36 33 14 11 6				
21 55 AND OVER	41 27 19 8 5				
1 REFUSED	59 22 0 19 0				

Utility Rate Issues

The next table shows that, on the general issue of cost-of-service pricing--the main focus of the third part of our survey--the responses of California residents are essentially the same as those of the public as a whole. This same pattern follows through the whole series of questions on cost-of-service pricing.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
California	29%	31	34	5	2

Looking at demographic breakdowns, we see that middle-aged Californians are more likely than either younger or older Californians to endorse the concept of cost-of-service pricing. Wealthier respondents are also somewhat more likely than their counterparts to back the concept. A complete demographic analysis follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

1. TOTALLY
3. SOMEWHAT
5. DK

2. MOSTLY
4. NOT AT ALL

Responses = 354

1. 2. 3. 4. 5.

MARGINALS

29 31 34 5 2

18. PRICE BASED ON UTILITY'S COSTS

29	TOTALLY	100	0	0	0	0
31	MOSTLY	0	100	0	0	0
34	SOMEWHAT	0	0	100	0	0
5	NOT AT ALL	0	0	0	100	0
2	DK	0	0	0	0	100

27. SEX

50	FEMALE	29	29	34	6	2
50	MALE	30	32	33	4	1

28. EDUCATION

8	SOME HIGH	31	30	31	8	0
32	HIGH GRAD	29	30	34	4	2
33	SOME COLLEGE	24	30	41	4	1
27	COLLEGE PLUS	35	33	25	5	2
0	DK	0	0	100	0	0

29. INCOME

14	0-9999	17	23	44	14	2
24	10-19999	30	38	31	1	0
56	20K AND OVER	33	30	33	3	2
6	REFUSED	25	28	32	5	10

30. AGE

47	18-35	28	34	34	4	1
30	36-55	37	25	34	2	2
21	55 AND OVER	22	33	35	9	1
1	REFUSED	19	19	19	0	44

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
California	22%	13	16	15	18	7	7	2

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
California	9%	4	10	10	14	17	33	4

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
California	19%	51	19	7	4

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
California	18%	31	24	25	2

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
California	46%	43	6	4	1

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	<u>Very, very bad</u>					<u>Very, very good</u>		<u>[DON'T KNOW]</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	--
California	5%	5	8	20	23	19	19	1

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
California	38%	30	13	8	1	2	1	--	1	6

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
California	26%	33	36	3	2	1

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
California	25%	6	70

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
California	41%	8	51

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
California	58%	34	6	2	1

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
California	45%	34	13	7	2

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
California	44%	33	13	7	3

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
California	41%	37	15	5	2

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
California	32%	31	19	15	3

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
California	33%	38	18	8	3

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
California	19%	36	40	4	1	--

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
California	29%	31	34	5	2

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
California	32%	3	64

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
California	21%	38	18	21	1

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
California	36%	1	62

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
California	28%	54	10	6	2

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
California	15%	25	29	28	3

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
California	31%	40	15	12	2

25. Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
California	37%	4	58

26. Let's say there was a clear choice--your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
California	10%	26	32	27	4

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
California	50%	50

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	--
California	1%	7	31	1	33	18	9	--

29. In which of the categories I read is the total annual income of this entire household--of everyone living in this house? [READ RESPONSES]

- | | | |
|----------------------|----------------|-----------------|
| 1. \$0-6,999 | 2. \$7-9,999 | 3. \$10-12,999 |
| 4. \$13-14,999 | 5. \$15-19,999 | 6. \$20-24,999 |
| 7. \$25,000 and over | 8. (Refused) | 9. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
California	9%	5	6	6	12	13	43	4	2

30. What is your age? [RECORD IN PROPER CATEGORY]

- | | | |
|--------------|----------|------------|
| 1. 18-25 | 2. 26-35 | 3. 36-45 |
| 4. 46-55 | 5. 56-65 | 6. Over 65 |
| 7. (Refused) | | |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
California	19%	28	18	12	12	10	1



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Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**

CONNECTICUT



Corporate Communications Department
270 Park Avenue
New York, N.Y. 10017

Preface

Electricity has become an issue of increasing public concern. After decades of declining prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. In Connecticut, for example, residential rates rose 136% from 1972 to 1980. Commercial rates increased 140% and industrial rates escalated 198% in the same period.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Americans say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- Nearly 7 out of 10 in Connecticut recognize that industry pays attention—one in four saying "a lot of attention"—to what the electric rates are when making a plant location decision.
- Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- About 8 out of 10 Connecticut residents recognize that the prices charged by industry are affected by what industry pays for electricity—one in four saying "a large effect." And 6 out of 10 would oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the decline in the growth and competitiveness of our economy. The

results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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MONITION

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CRI #1678

Introduction

This is analysis of a survey of public attitudes toward the problem of electricity supply and cost in Connecticut and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 366 adults scientifically selected to reflect the attitudes of the entire over-18, non-institutionalized population of Connecticut. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about the supply of electricity in Connecticut;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 15% or less on charts where the base population is approximately 366, conclusions based on these responses should be made with caution, as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referral;
- * Demographic charts discussed, but not included, in the text are available upon request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% due to rounding.

Summary

This survey of the attitudes of Connecticut residents toward electric utility issues was conducted simultaneously with a national survey using the same questionnaire. The full analysis of the national survey results can be found in the report "Public Attitudes about Electric Utility Issues." The present report highlights how the attitudes of Connecticut residents revealed in the survey compare to the attitudes of the American public as a whole.

On the major points of the survey, we find that the views of the citizens of Connecticut closely resemble those of all Americans. We do see some significant differences, however.

First of all, Connecticut residents are much more likely than Americans as a whole to be aware of and concerned about the cost of fuel as a component of rising electric rates. In particular, they are concerned about the cost of imported oil, a problem characteristic of the entire energy-poor Northeast.

Citizens of Connecticut are much less inclined than other people to blame government regulations--in particular, anti-pollution regulations--for increased electricity costs.

As for attitudes toward cost-of-service pricing, the pattern in Connecticut is similar to the national pattern. That is, Connecticut residents support the overall concept of cost-of-service pricing, but are skeptical when they learn that industry might, as a result, pay a lower per unit price for electricity than residential customers. Only when they see possible benefits for themselves--in terms of lower prices for consumer goods or greater economic development--do they truly favor cost-of-service pricing as a practical choice.

The Problem of Electricity Supplies

The first part of our survey checked people's expectations about electricity supply problems in their area, both now and over the long term, and we then went on to ask people how they feel about various ways of ensuring adequate supplies of electricity.

The responses to these questions reveal no significant differences between the views of Connecticut residents and the views of the American public as a whole. Like all Americans, people living in Connecticut are much more concerned about the difficulty of ensuring electricity supplies in 10 years' time than they are about the difficulty of maintaining supplies today. And, likewise reflecting the opinions of the public as a whole, citizens of Connecticut strongly prefer to expand or extend electricity supplies by increased conservation and increased use of coal rather than by increased reliance on nuclear power.

Electric Utilities and Their Rates

The second part of our survey, which tested people's perceptions about electric rates and about the possible causes of rate increases, does reveal some notable differences between Connecticut residents and the nation as a whole.

As the first table shows, Connecticut residents are more likely than Americans as a whole to rate increased fuel costs as a very important factor in rising electricity rates. The difference between the state and the nation is a full 9 points.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me whether you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: increased costs of fuel used to generate electricity.

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
Connecticut	63%	30	5	1	1

Demographic breakdowns show that, among Connecticut residents, men are more sensitive than women to the role increased fuel costs play in electricity rates. Better-educated citizens of Connecticut are more likely than their less-educated counterparts to rate this factor as very important. A complete demographic analysis follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: increased costs of fuel used to generate electricity.

- | | |
|------------------|--------------------|
| 1. VERY IMPT | 2. SOMEWHAT IMPT |
| 3. NOT VERY IMPT | 4. NOT IMPT AT ALL |
| 5. DK | |

Responses = 367

1. 2. 3. 4. 5.

MARGINALS

63 30 5 1 1

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	70	26	2	0	1
27	MOSTLY	65	28	5	1	1
35	SOMEWHAT	56	36	6	1	1
3	NOT AT ALL	66	17	17	0	0
4	DK	55	37	8	0	0

27. SEX

51	FEMALE	60	36	3	1	1
49	MALE	67	25	7	0	1

28. EDUCATION

12	SOME HIGH	57	37	2	2	2
36	HIGH GRAD	52	38	9	0	1
20	SOME COLLEGE	76	21	3	1	0
30	COLLEGE PLUS	71	26	3	0	0
1	DK	70	0	0	0	30

29. INCOME

15	0-9999	51	40	5	2	2
28	10-19999	66	25	7	1	1
44	20K AND OVER	66	30	4	0	0
13	REFUSED	61	33	4	0	2

30. AGE

40	18-35	57	36	5	1	1
29	36-55	65	31	3	1	0
30	55 AND OVER	69	24	6	0	1
0	REFUSED	100	0	0	0	0

The difference between Connecticut and the nation is even more striking when the focus is specifically on the role of oil prices. As the next table shows, there is a 13-point difference between the proportion of Connecticut citizens who feel imported oil is a very important cause of rising electric bills and the proportion of the general public who feel the same way.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me whether you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: dependence on imported oil as a fuel for generating electricity.

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
Connecticut	59%	26	10	5	1

Demographic breakdowns again show that, among Connecticut residents, men and higher-income people express somewhat greater concern than their respective counterparts about imported oil as a factor in rising electricity costs. A complete demographic breakdown follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important or not at all important reason for rising electricity prices: dependence on imported oil as a fuel for generating electricity.

1. VERY IMPT	2. SOMEWHAT IMPT				
3. NOT VERY IMPT	4. NOT IMPT AT ALL				
5. DK					
Responses = 367	1. 2. 3. 4. 5.				
MARGINALS	59 26 10 5 1				
18. PRICE BASED ON UTILITY'S COSTS					
31 TOTALLY	61 25 8 6 1				
27 MOSTLY	56 30 9 3 2				
35 SOMEWHAT	56 26 11 4 2				
3 NOT AT ALL	66 24 10 0 0				
4 DK	63 11 13 13 0				
27. SEX					
51 FEMALE	57 26 11 4 2				
49 MALE	61 26 8 5 1				
28. EDUCATION					
12 SOME HIGH	54 28 16 2 0				
36 HIGH GRAD	52 31 8 7 1				
20 SOME COLLEGE	61 25 10 3 1				
30 COLLEGE PLUS	66 20 9 4 1				
1 DK	70 0 0 0 30				
29. INCOME					
15 0-9999	51 29 11 7 1				
28 10-19999	59 25 9 6 1				
44 20K AND OVER	62 25 9 3 1				
13 REFUSED	55 26 12 2 4				
30. AGE					
40 18-35	56 24 13 6 2				
29 36-55	62 27 8 2 1				
30 55 AND OVER	59 28 7 5 1				
0 REFUSED	100 0 0 0 0				

Just as Connecticut residents are more concerned about fuel costs as a component of increasing utility bills, they show significantly less concern than the public as a whole about the impact of government regulations. As the first table shows, the proportion of people who see the delays caused by government health and safety regulations as a very important cause of problems is 9 points lower in Connecticut than in the nation as a whole.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me whether you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built.

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Connecticut	38%	36	16	7	3

Demographic breakdowns show that, in Connecticut, men are slightly more concerned than women about the impact of regulations. Well-educated people, however, are significantly less concerned than their counterparts about the impact of regulations on electricity costs. A complete demographic analysis follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built.

1. VERY IMPT
3. NOT VERY IMPT
5. DK

2. SOMEWHAT IMPT
4. NOT IMPT AT ALL

Responses = 367

1. 2. 3. 4. 5.

MARGINALS

38 36 16 7 3

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	38	38	16	7	2
27	MOSTLY	30	42	18	6	5
35	SOMEWHAT	40	36	16	5	2
3	NOT AT ALL	55	7	10	29	0
4	DK	47	13	19	7	14

27. SEX

51	FEMALE	36	35	19	6	4
49	MALE	40	38	14	6	2

28. EDUCATION

12	SOME HIGH	47	30	9	7	6
36	HIGH GRAD	37	40	15	6	1
20	SOME COLLEGE	37	30	23	7	3
30	COLLEGE PLUS	33	39	18	7	3
1	DK	30	40	0	0	30

29. INCOME

15	0-9999	33	41	14	8	4
28	10-19999	37	37	19	3	3
44	20K AND OVER	39	36	14	9	3
13	REFUSED	38	32	22	4	3

30. AGE

40	18-35	34	37	19	7	3
29	36-55	41	37	15	3	4
30	55 AND OVER	39	35	14	10	2
0	REFUSED	0	0	100	0	0

When the regulatory focus is shifted specifically to air and water pollution controls, the results are similar. As the next table shows, the proportion of people calling such controls a very important cause of rising utility bills is 8 points lower in Connecticut than in the nation as a whole.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me whether you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the cost of controlling and decreasing air and water pollution caused by power plants.

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
Connecticut	37%	41	14	6	2

Demographic breakdowns show that, in Connecticut, women are actually more likely than men to say pollution controls are a very important cause of increased electricity costs. Better-educated people, on the other hand, are less likely than their counterparts to put the blame on pollution controls. A complete demographic analysis follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the cost of controlling and decreasing air and water pollution caused by power plants.

- | | |
|------------------|--------------------|
| 1. VERY IMPT | 2. SOMEWHAT IMPT |
| 3. NOT VERY IMPT | 4. NOT IMPT AT ALL |
| 5. DK | |

Responses = 367

1. 2. 3. 4. 5.

MARGINALS

37 41 14 6 2

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	34	41	16	7	2
27	MOSTLY	35	40	18	5	2
35	SOMEWHAT	41	44	8	4	2
3	NOT AT ALL	53	8	10	29	0
4	DK	31	47	14	8	0

27. SEX

51	FEMALE	40	39	14	5	2
49	MALE	33	44	14	8	1

28. EDUCATION

12	SOME HIGH	45	36	9	10	0
36	HIGH GRAD	34	49	8	6	3
20	SOME COLLEGE	44	29	20	6	1
30	COLLEGE PLUS	31	43	19	6	1
1	DK	70	0	0	0	30

29. INCOME

15	0-9999	39	40	14	5	2
28	10-19999	35	45	12	7	1
44	20K AND OVER	38	38	15	8	2
13	REFUSED	36	44	12	2	6

30. AGE

40	18-35	38	39	15	6	2
29	36-55	35	44	13	6	2
30	55 AND OVER	37	40	13	8	2
0	REFUSED	100	0	0	0	0

Utility Rate Issues

The Connecticut results on all our questions about attitudes toward cost-of-service pricing--the focus of the third part of our survey--are very similar to those for the nation as a whole. Indeed, as the table below indicates there is very little difference between the responses of Connecticut residents and the responses of all Americans to our most general question about cost-of-service pricing.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Connecticut	31%	27	35	3	4

Demographic breakdowns show that support for cost-of-service pricing in Connecticut increases with both education and income. Younger people are also slightly more favorable than older people, and men are slightly more supportive than women. A complete demographic analysis follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

1. TOTALLY
3. SOMEWHAT
5. DK

2. MOSTLY
4. NOT AT ALL

Responses = 367

1. 2. 3. 4. 5.

MARGINALS

31 27 35 3 4

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	100	0	0	0	0
27	MOSTLY	0	100	0	0	0
35	SOMEWHAT	0	0	100	0	0
3	NOT AT ALL	0	0	0	100	0
4	DK	0	0	0	0	100

27. SEX

51	FEMALE	27	30	36	4	4
49	MALE	35	25	34	2	4

28. EDUCATION

12	SOME HIGH	19	26	37	4	13
36	HIGH GRAD	32	26	37	3	3
20	SOME COLLEGE	30	29	32	3	5
30	COLLEGE PLUS	34	28	34	3	2
1	DK	70	30	0	0	0

29. INCOME

15	0-9999	24	22	48	4	2
28	10-19999	21	34	34	4	7
44	20K AND OVER	42	22	32	3	2
13	REFUSED	26	34	31	0	8

30. AGE

40	18-35	33	30	30	3	4
29	36-55	31	29	34	2	3
30	55 AND OVER	28	21	42	4	5
0	REFUSED	100	0	0	0	0

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
Connecticut	28%	10	17	15	13	6	7	4

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
Connecticut	15%	4	10	9	16	14	22	10

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
Connecticut	24%	52	18	3	2

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
Connecticut	18%	32	23	24	3

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
Connecticut	50%	39	8	2	1

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	<u>Very, very bad</u>					<u>Very, very good</u>		<u>[DON'T KNOW]</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	--
Connecticut	6%	4	12	14	28	14	18	3

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
Connecticut	14%	43	16	10	4	2	1	1	1	10

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
Connecticut	33%	42	20	1	1	3

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Connecticut	29%	10	62

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
Connecticut	41%	12	47

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
Connecticut	63%	30	5	1	1

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
Connecticut	59%	16	10	5	1

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Connecticut	38%	36	16	7	3

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
Connecticut	37%	41	14	6	2

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
Connecticut	37%	30	18	10	4

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
Connecticut	44%	33	14	7	2

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Connecticut	27%	42	26	1	1	2

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Connecticut	31%	27	35	3	4

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
Connecticut	28%	3	69

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
Connecticut	24%	36	21	18	1

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
Connecticut	36%	2	62

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
Connecticut	27%	50	12	6	4

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
Connecticut	12%	22	29	32	5

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Connecticut	26%	40	18	13	3

25. Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
Connecticut	31%	6	63

26. Let's say there was a clear choice—your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
Connecticut	9%	23	37	28	4

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
Connecticut	51%	49

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	--
Connecticut	4%	8	33	3	20	23	8	1

29. In which of the categories I read is the total annual income of this entire household--of everyone living in this house? [READ RESPONSES]

1. \$0-6,999	2. \$7-9,999	3. \$10-12,999							
4. \$13-14,999	5. \$15-19,999	6. \$20-24,999							
7. \$25,000 and over	8. (Refused)	9. (Don't know)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
Connecticut	6%	9	7	7	14	12	32	9	4

30. What is your age? [RECORD IN PROPER CATEGORY]

1. 18-25	2. 26-35	3. 36-45					
4. 46-55	5. 56-65	6. Over 65					
7. (Refused)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
Connecticut	18%	22	16	14	15	15	--



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Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**

LOUISIANA



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Preface

Electricity has become an issue of increasing public concern. After decades of *declining* prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. In Louisiana, for example, residential rates rose 85% from 1972 to 1980. Commercial rates increased 100% and industrial rates escalated 240% in the same period.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Americans say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- About 7 out of 10 in Louisiana recognize that industry pays attention—over 3 in 10 saying "a lot of attention"—to what the electric rates are when making a plant location decision.
- Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- About 8 out of 10 Louisiana residents recognize that the prices charged by industry are affected by what industry pays for electricity—one in four saying "a large effect." And nearly 6 out of 10 would oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the

decline in the growth and competitiveness of our economy. The results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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MONITION

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Introduction

This is an analysis of a survey of public attitudes toward the problem of electricity supply and cost in Louisiana and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 362 adults scientifically selected to reflect the attitudes of the entire over-18, non-institutionalized population of Louisiana. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about the supply of electricity in Louisiana;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 15% or less on charts where the base population is approximately 362, conclusions based on these responses should be made with caution, as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referral;
- * Demographic charts discussed, but not included, in the text are available upon request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% due to rounding.

Summary

This survey of the attitudes of Louisiana residents toward electric utility issues was conducted simultaneously with a national survey using the same questionnaire. The full analysis of the national survey results can be found in the report "Public Attitudes about Electric Utility Issues." The present report highlights how the attitudes of Louisiana residents revealed in the survey compare to the attitudes of the American public as a whole.

On the major points of the survey, we find that the views of the citizens of Louisiana closely resemble those of all Americans. Two notable differences do emerge, however. First, concern over high electric rates is somewhat greater in the state than in the nation as a whole. Louisiana residents are also somewhat more convinced than other Americans that industry pays a great deal of attention to electricity costs when deciding where to locate new plants.

In terms of attitudes toward cost-of-service pricing, the pattern in Louisiana is similar to the national pattern. That is, Louisiana residents support the overall concept of cost-of-service pricing, but are skeptical when they learn that industry might, as a result, pay a lower per unit price for electricity than residential customers. Only when they see benefits

for themselves--in terms of lower prices for consumer goods or greater economic development--do they truly favor cost-of-service pricing as a practical choice.

The Problem of Electricity Supplies

The first part of our survey checked people's expectations about electricity supply problems in their area, both now and over the long term, and we then went on to ask people how they feel about various ways of ensuring adequate supplies of electricity.

The responses to these questions reveal no significant differences between the views of Louisiana residents and the views of the American public as a whole. Like all Americans, people living in Louisiana are much more concerned about the difficulty of ensuring electricity supplies in 10 years time than they are about the difficulty of maintaining supplies today. And, likewise reflecting the opinions of the public as a whole, citizens of Louisiana strongly prefer to expand--or extend--electricity supplies by increased conservation and increased use of coal rather than by increased reliance on nuclear power.

Electric Utilities and Their Rates

The second part of our survey, which tested people's perceptions about electric rates and about the possible causes of rate increases, does reveal some notable differences between Louisiana residents and the nation as a whole.

As the first table shows, Louisiana residents are significantly more likely than people in other states to feel their electric company has very high rates. In Louisiana, the number of people who see rates as very high is a full 9 points larger than the national average.

Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
Louisiana	37%	31	30	1	--	1

Demographic breakdowns show that, in Louisiana, poorer and less-educated people are particularly likely to feel that charges by Louisiana utilities are high. Women are also significantly more likely than men to feel charges by electric companies are very high. A complete demographic analysis follows.

Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

1. VERY HIGH
3. ABOUT RIGHT
5. VERY LOW

2. SOMEWHAT HIGH
4. SOMEWHAT LOW
6. DK

Responses = 362

	1.	2.	3.	4.	5.	6.
MARGINALS	37	31	30	1	0	1

18. PRICE BASED ON UTILITY'S COSTS

33	TOTALLY	41	21	36	1	0	2
20	MOSTLY	33	36	30	0	0	1
36	SOMEWHAT	36	39	24	1	0	0
4	NOT AT ALL	43	32	25	0	0	0
7	DK	31	27	34	4	0	4

27. SEX

51	FEMALE	42	34	23	0	0	1
49	MALE	32	29	38	1	0	1

28. EDUCATION

23	SOME HIGH	48	25	25	0	0	2
37	HIGH GRAD	39	26	33	1	0	1
17	SOME COLLEGE	34	32	32	1	0	0
22	COLLEGE PLUS	25	47	28	0	0	0
0	DK	0	0	100	0	0	0

29. INCOME

18	0-9999	46	24	30	0	0	0
29	10-19999	41	31	25	2	0	1
44	20K AND OVER	30	37	32	1	0	1
9	REFUSED	38	23	36	0	0	3

30. AGE

44	18-35	35	35	28	1	0	1
29	36-55	41	27	30	2	0	1
26	55 AND OVER	35	31	34	0	0	0
1	REFUSED	0	0	50	0	0	50

Furthermore, Louisiana residents are somewhat more likely than the public as a whole to feel that electric utility rates are high compared to the value consumers receive for their money. As the next table indicates, the number of people saying charges are very high is 6 points larger than the national average--though this difference is offset somewhat by the relatively smaller number of Louisiana residents who say charges are only somewhat high.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Louisiana	28%	37	30	2	1	1

Demographic breakdowns show again that poorer and less-educated Louisiana residents are somewhat more likely than their counterparts to feel that electric utility rates are high. Women are more likely than men to describe their electric bills as high. A complete demographic analysis follows.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

1. VERY HIGH	2. SOMEWHAT HIGH					
3. ABOUT RIGHT	4. SOMEWHAT LOW					
5. VERY LOW	6. DK					
Responses = 362	1. 2. 3. 4. 5. 6.					
MARGINALS	28 37 30 2 1 1					
18. PRICE BASED ON UTILITY'S COSTS						
33 TOTALLY	36 24 35 4 1 0					
20 MOSTLY	23 42 34 0 0 1					
36 SOMEWHAT	23 51 23 1 2 0					
4 NOT AT ALL	31 44 25 0 0 0					
7 DK	38 11 38 8 0 4					
27. SEX						
51 FEMALE	32 36 29 2 0 0					
49 MALE	24 39 31 2 2 1					
28. EDUCATION						
23 SOME HIGH	37 29 30 3 0 1					
37 HIGH GRAD	30 38 27 2 1 1					
17 SOME COLLEGE	25 34 40 1 0 0					
22 COLLEGE PLUS	20 49 26 2 3 0					
0 DK	0 0 100 0 0 0					
29. INCOME						
18 0-9999	31 38 29 1 0 0					
29 10-19999	32 35 28 2 2 1					
44 20K AND OVER	24 41 31 3 2 1					
9 REFUSED	34 29 34 3 0 0					
30. AGE						
44 18-35	29 39 29 1 1 1					
29 36-55	34 31 28 3 3 1					
26 55 AND OVER	22 43 33 2 0 0					
1 REFUSED	0 0 50 50 0 0					

Utility Rate Issues

The third part of our survey focused on utility rate issues--particularly the issue of cost-of-service pricing. On the fundamental question of how rates should be set, Louisiana residents are only slightly more likely than the public as a whole to feel bills should be set totally on the basis of cost-of-service. And even this difference is offset by the smaller number of Louisiana respondents who feel electric bills should be based mostly on cost.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Louisiana	33%	20	36	4	7

Demographic breakdowns show that, in Louisiana, lower-income people are somewhat more likely than others to take the position that electric bills should be based totally on cost, while upper-income people are more likely to say electric bills should be based mostly on cost. A complete demographic analysis follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

1. TOTALLY
3. SOMEWHAT
5. DK

2. MOSTLY
4. NOT AT ALL

Responses = 362

1. 2. 3. 4. 5.

MARGINALS

33 20 36 4 7

18. PRICE BASED ON UTILITY'S COSTS

33	TOTALLY	100	0	0	0	0
20	MOSTLY	0	100	0	0	0
36	SOMEWHAT	0	0	100	0	0
4	NOT AT ALL	0	0	0	100	0
7	DK	0	0	0	0	100

27. SEX

51	FEMALE	36	19	34	4	7
49	MALE	29	22	38	4	6

28. EDUCATION

23	SOME HIGH	36	15	30	3	15
37	HIGH GRAD	34	16	42	4	4
17	SOME COLLEGE	28	27	34	8	3
22	COLLEGE PLUS	30	28	36	1	5
0	DK	0	0	0	100	0

29. INCOME

18	0-9999	38	12	37	2	11
29	10-19999	36	18	37	4	5
44	20K AND OVER	30	23	38	4	5
9	REFUSED	20	31	23	11	14

30. AGE

44	18-35	31	22	39	5	2
29	36-55	41	20	26	5	7
26	55 AND OVER	26	18	43	1	12
1	REFUSED	0	0	0	50	50

But we do find that Louisiana residents are significantly more likely than people in other states, to think business pays a lot of attention to rates in deciding where to build. Thus the promise of economic development could be a factor in the attitudes of Louisiana citizens toward cost-of-service pricing.

Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Louisiana	34%	37	11	15	3

Demographic breakdowns show that, in Louisiana, higher-income and better-educated people are the groups most convinced that electric rates play a large role in business decisions about where to build. Men are also significantly more convinced of this than women. A complete demographic analysis follows.

Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, same attention, only a little attention, or no attention at all?

1. LOT OF ATTENTION
3. LITTLE ATTENTION
5. DK

2. SOME ATTENTION
4. NO ATTENTION AT ALL

Responses = 362

1. 2. 3. 4. 5.

MARGINALS

34 37 11 15 3

18.PRICE BASED ON UTILITY'S COSTS

33	TOTALLY	40	33	13	12	2
20	MOSTLY	35	42	9	15	0
36	SOMEWHAT	31	39	10	17	2
4	NOT AT ALL	6	50	13	30	0
7	DK	35	19	12	11	23

27.SEX

51	FEMALE	27	43	12	15	4
49	MALE	42	31	10	15	3

28.EDUCATION

23	SOME HIGH	30	28	12	20	10
37	HIGH GRAD	31	45	7	15	2
17	SOME COLLEGE	28	44	13	15	0
22	COLLEGE PLUS	49	28	14	9	0
0	DK	0	0	100	0	0

29.INCOME

18	0-9999	29	27	17	17	10
29	10-19999	31	39	12	17	2
44	20K AND OVER	42	39	7	12	1
9	REFUSED	14	44	15	22	6

30.AGE

44	18-35	26	45	16	13	1
29	36-55	40	39	6	16	0
26	55 AND OVER	40	23	8	18	11
1	REFUSED	50	0	50	0	0

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
Louisiana	24%	10	14	14	21	6	8	4

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
Louisiana	10%	8	8	8	16	11	33	5

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
Louisiana	21%	52	17	7	3

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
Louisiana	17%	36	20	22	4

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
Louisiana	42%	42	8	5	3

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	Very, very bad					Very, very good		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	--
Louisiana	7%	5	8	16	22	17	23	1

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
Louisiana	5%	20	22	24	11	7	3	3	2	4

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
Louisiana	37%	31	30	1	--	1

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Louisiana	32%	7	61

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
Louisiana	40%	13	48

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
Louisiana	58%	31	7	3	2

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
Louisiana	44%	35	15	5	2

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Louisiana	50%	31	10	6	3

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
Louisiana	41%	35	15	6	3

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
Louisiana	34%	35	17	10	4

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
Louisiana	41%	34	16	4	5

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Louisiana	28%	37	30	2	1	1

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Louisiana	33%	20	36	4	7

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
Louisiana	33%	3	65

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
Louisiana	29%	31	14	24	2

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
Louisiana	29%	3	69

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
Louisiana	26%	51	10	8	5

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
Louisiana	13%	26	29	27	5

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Louisiana	34%	37	11	15	3

25. Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
Louisiana	34%	5	60

26. Let's say there was a clear choice--your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
Louisiana	9%	24	32	30	4

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
Louisiana	51%	49

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	--
Louisiana	7%	16	35	2	17	15	6	--

29. In which of the categories I read is the total annual income of this entire household--of everyone living in this house? [READ RESPONSES]

1. \$0-6,999	2. \$7-9,999	3. \$10-12,999							
4. \$13-14,999	5. \$15-19,999	6. \$20-24,999							
7. \$25,000 and over	8. (Refused)	9. (Don't know)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
Louisiana	10%	8	8	7	14	14	30	5	4

30. What is your age? [RECORD IN PROPER CATEGORY]

1. 18-25	2. 26-35	3. 36-45					
4. 46-55	5. 56-65	6. Over 65					
7. (Refused)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
Louisiana	21%	23	15	14	12	14	1



Union Carbide Corporation
Corporate Communications Department
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Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**

OHIO



Corporate Communications Department
270 Park Avenue
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Preface

Electricity has become an issue of increasing public concern. After decades of declining prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. In Ohio, for example, residential rates rose 116% from 1972 to 1980. Commercial rates increased 130% and industrial rates escalated 209% in the same period.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Americans say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- More than 7 out of 10 Ohioans recognize that industry pays attention—3 in 10 saying "a lot of attention"—to what the electric rates are when making a plant location decision.
- Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- About 8 out of 10 Ohioans recognize that the prices charged by industry are affected by what industry pays for electricity—one in four saying "a large effect." And nearly 6 out of 10 oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the decline in the growth and competitiveness of our economy. The

results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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Union Carbide/Ohio

MONITION

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CRI #1678

Introduction

This is an analysis of a survey of public attitudes toward the problem of electricity supply and cost in Ohio and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 348 adults scientifically selected to reflect the attitudes of the entire over-18, non-institutionalized population of Ohio. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about the supply of electricity in Ohio;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 15% or less on charts where the base population is approximately 348, conclusions based on these responses should be made with caution, as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referral;
- * Demographic charts discussed, but not included, in the text are available upon request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% due to rounding.

Summary

This survey of the attitudes of Ohio residents toward electric utility issues was conducted simultaneously with a national survey using the same questionnaire. The full analysis of the national survey results can be found in the report "Public Attitudes about Electric Utility Issues." The present report highlights how the attitudes of Ohio residents revealed in the survey compare to the attitudes of the American public as a whole.

On the major points of the survey, we find that the views of the citizens of Ohio closely resemble those of all Americans. We do see two significant differences, however.

First of all, Ohioans have much more favorable perceptions than the public as a whole about the rise in electricity prices vis-à-vis the overall level of inflation during the last 15 years. They are significantly less likely than other Americans to see electricity costs rising faster than the cost of most other things.

The second difference is that Ohio residents are significantly more likely than other Americans to rate government regulations as an important factor in rising electricity costs.

As for attitudes toward cost-of-service pricing, the pattern in Ohio is similar to the national pattern. That is, Ohio residents support the overall concept of cost-of-service pricing, but are skeptical when they learn that industry might, as a result, pay a lower per unit price for electricity than residential customers. Only when they see possible benefits for themselves--in terms of lower prices for consumer goods or greater economic development--do they truly favor cost-of-service pricing as a practical choice.

The Problem of Electricity Supplies

The first part of our survey checked people's expectations about electricity supply problems in their area, both now and over the long term, and we then went on to ask people how they feel about various ways of ensuring adequate supplies of electricity.

The responses to these questions reveal no significant differences between the views of Ohio residents and the views of the American public as a whole. Like all Americans, people living in Ohio are much more concerned about the difficulty of ensuring electricity supplies in 10 years time than they are about the difficulty of maintaining supplies today. And, likewise reflecting the opinions of the public as a whole, citizens of Ohio strongly prefer to expand or extend electricity supplies by increased conservation and increased use of coal rather than by increased reliance on nuclear power.

As the first table shows, Ohioans are much more likely than other Americans to see electricity lagging behind other things in terms of cost increases over the last 15 years. By a four-to-one margin, Ohioans see price increases in general as greater than those affecting electricity.

Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Ohio	18%	6	76

The demographic breakdowns show that, among Ohio residents, less-educated respondents are somewhat more likely than their better-educated counterparts to see electric rates rising faster than other prices. Women and older people are also slightly more likely than their respective counterparts to take this view. A complete demographic analysis follows.

Which do you think has gone up more since 1967--the cost of electricity
or the cost of most other things?

1. COST OF ELECTRICITY

2. DK

3. COST OF OTHERS

Responses = 348

1. 2. 3.

MARGINALS

18 6 76

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	21	9	70
31	MOSTLY	21	3	77
32	SOMEWHAT	14	6	79
3	NOT AT ALL	17	0	83
3	DK	11	0	89

27. SEX

53	FEMALE	21	5	73
47	MALE	15	6	79

28. EDUCATION

15	SOME HIGH	23	9	68
46	HIGH GRAD	20	6	74
18	SOME COLLEGE	18	3	79
21	COLLEGE PLUS	11	5	84
0	DK	0	0	100

29. INCOME

14	0-9999	20	12	68
30	10-19999	18	2	80
47	20K AND OVER	18	4	78
8	REFUSED	21	18	61

30. AGE

42	18-35	16	1	83
30	36-55	18	7	75
27	55 AND OVER	23	12	66
1	REFUSED	0	20	80

Electric Utilities and Their Rates

The second part of our survey, which tested people's perceptions about electric rates and about the possible causes of rate increases, does reveal some notable differences between Ohio residents and the nation as a whole.

Ohioans are more likely than the nation as a whole to blame government health and safety regulations for rising electricity costs. As the table shows, a majority of Ohioans--7 points above the national figure--feel that regulations are a very important cause of rising electric bills.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built.

	<u>Very important</u>	<u>Some- what important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Ohio	54%	31	10	3	1

Demographic breakdowns show that poorer and less-educated people are more likely than their counterparts to blame government regulation for rising electric rates. Older people are also much more likely than younger and middle-aged people to feel this way. A complete demographic analysis follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built.

1. VERY IMPT
3. NOT VERY IMPT
5. DK

2. SOMEWHAT IMPT
4. NOT IMPT AT ALL

Responses = 348

	1.	2.	3.	4.	5.
MARGINALS	54	31	10	3	1

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	59	25	12	5	0
31	MOSTLY	54	31	9	4	2
32	SOMEWHAT	50	36	11	2	2
3	NOT AT ALL	33	50	8	8	0
3	DK	78	11	0	0	11

27. SEX

53	FEMALE	54	30	10	4	3
47	MALE	54	32	11	3	0

28. EDUCATION

15	SOME HIGH	75	17	4	2	2
46	HIGH GRAD	48	32	13	5	2
18	SOME COLLEGE	52	36	10	2	0
21	COLLEGE PLUS	51	34	11	3	1
0	DK	100	0	0	0	0

29. INCOME

14	0-9999	62	24	10	2	2
30	10-19999	53	30	11	4	2
47	20K AND OVER	53	32	11	3	1
8	REFUSED	50	36	4	7	4

30. AGE

42	18-35	47	35	14	3	1
30	36-55	55	33	8	4	1
27	55 AND OVER	66	23	6	3	2
1	REFUSED	40	20	20	0	20

Utility Rate Issues

As we noted earlier, Ohio exhibits the same attitudes as the nation as a whole toward cost-of-service pricing, which was the major focus of the last part of our survey. The next table shows that, on the most general question about cost-of-service pricing, Ohioans express virtually the same opinions as the national average.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Ohio	31%	31	32	3	3

Demographic breakdowns show that men in Ohio are somewhat more favorable than women toward the idea of basing rates totally on cost; women show a slight preponderance in the "mostly" category, though, thus canceling out much of the significance of this difference. A complete demographic analysis follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to the consumer?

1. TOTALLY
3. SOMEWHAT
5. DK

2. MOSTLY
4. NOT AT ALL

Responses = 348

1. 2. 3. 4. 5.

MARGINALS

31 31 32 3 3

18. PRICE BASED ON UTILITY'S COSTS

31	TOTALLY	100	0	0	0	0
31	MOSTLY	0	100	0	0	0
32	SOMEWHAT	0	0	100	0	0
3	NOT AT ALL	0	0	0	100	0
3	DK	0	0	0	0	100

27. SEX

53	FEMALE	27	33	34	3	3
47	MALE	36	28	30	4	2

28. EDUCATION

15	SOME HIGH	36	21	40	0	4
46	HIGH GRAD	30	31	35	3	3
18	SOME COLLEGE	30	25	34	7	5
21	COLLEGE PLUS	34	42	18	5	0
0	DK	0	100	0	0	0

29. INCOME

14	0-9999	28	30	40	0	2
30	10-19999	33	30	29	6	2
47	20K AND OVER	33	30	30	3	3
8	REFUSED	21	36	36	4	4

30. AGE

42	18-35	26	32	35	6	1
30	36-55	35	26	31	4	5
27	55 AND OVER	34	34	29	0	2
1	REFUSED	40	40	20	0	0

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
Ohio	26%	16	20	13	14	3	5	2

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
Ohio	13%	8	11	7	20	15	19	6

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
Ohio	33%	51	11	4	1

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
Ohio	11%	37	27	22	2

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>'Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
Ohio	34%	49	8	6	3

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	Very, very bad					Very, very good		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	--
Ohio	5%	3	8	16	29	17	22	--

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
Ohio	21%	39	16	8	2	2	2	1	1	8

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
Ohio	27%	39	29	3	--	1

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
Ohio	18%	6	76

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
Ohio	45%	8	47

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
Ohio	51%	42	4	2	1

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
Ohio	41%	30	19	9	1

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
Ohio	54%	31	10	3	1

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
Ohio	48	36	11	3	2

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
Ohio	33%	31	24	8	4

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
Ohio	45%	37	11	5	2

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
Ohio	19%	46	30	3	1	1

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
Ohio	31%	31	32	3	3

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
Ohio	36%	3	61

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
Ohio	22%	35	22	20	2

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
Ohio	35%	1	64

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
Ohio	27%	51	15	4	3

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
Ohio	10%	29	29	28	3

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
Ohio	30%	46	12	11	2

25. Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
Ohio	34%	5	61

26. Let's say there was a clear choice--your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
Ohio	10%	24	34	28	3

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
Ohio	53%	47

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	--
Ohio	5%	10	43	3	18	15	6	--

29. In which of the categories I read is the total annual income of this entire household—of everyone living in this house? [READ RESPONSES]

1. \$0-6,999	2. \$7-9,999	3. \$10-12,999							
4. \$13-14,999	5. \$15-19,999	6. \$20-24,999							
7. \$25,000 and over	8. (Refused)	9. (Don't know)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
Ohio	7%	7	10	7	13	17	30	7	1

30. What is your age? [RECORD IN PROPER CATEGORY]

1. 18-25	2. 26-35	3. 36-45					
4. 46-55	5. 56-65	6. Over 65					
7. (Refused)							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
Ohio	18%	24	16	14	15	12	1



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Electricity Pricing: Choices For The 80's

American Attitudes on Electricity Pricing and Economic Growth

**Survey Conducted by
Cambridge Reports, Inc.
For Union Carbide Corporation**

WEST VIRGINIA



**Corporate Communications Department
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Preface

Electricity has become an issue of increasing public concern. After decades of *declining* prices, rapid increases in charges to all electricity consumers occurred during the 1970s. Higher costs incurred by the utilities—especially the rapid escalation of the cost of fuel needed to generate electricity—have made it necessary for utilities to increase the rates they charge for electricity sold to factories, stores, and homes.

Since 1972, the price charged for each unit of electricity used by industry has increased almost twice as much as the price charged for each unit used by residential consumers. Electricity rates to industry rose nearly 20% in 1980, putting an onerous burden on those industries that are electricity-intensive in their operations. But while these higher electricity charges to industry are almost inevitably passed along in the total price consumers pay for goods and services, Americans are more immediately concerned about the increases in the electricity bills they pay at home. So not surprisingly, the price of residential electricity has been the main factor in the public debate about electricity price structures.

What is not generally appreciated by the public is that the sharp increases in industry's electric rates are partly the result of rate-making policies that force industry to subsidize other types of users.

Inescapable increases in utility generating costs and higher rates for electricity users have led some federal and state policymakers to try to hold down rises in residential rates by moving away from the historical formula used to set electricity rates, a formula called "cost of service." The "cost of service" principle means that utilities charge each different class of customer what it actually costs to supply that class with the electricity it uses. Since it costs a utility more to bring one kilowatt hour of electricity to a single family home than to a large manufacturing facility because of economies of scale, home owners pay more under cost of service for that one kilowatt than do industrial customers.

Many different rate-making approaches have been proposed that would circumvent the cost-of-service principle. Almost all of these approaches require industry and commerce to subsidize other electricity users by having industry's rates raised disproportionately when compared to the rates of other classes of users. In West Virginia, for example, residential rates rose 78% from 1972 to 1980. Commercial rates increased 89% and industrial rates escalated 161% in the same period.

Union Carbide and its employees, customers, shareholders and the communities in which we operate have a vital stake in seeing America develop sound electricity pricing policies. In 1980, Union Carbide purchased 10.4 billion kilowatt hours of electricity, enough to supply the entire State of California for one month. Over the

past 8 years, Union Carbide's sales increased about 200% while consumption of electricity increased only 20%, largely because of strenuous conservation efforts. In this same period, Union Carbide's electricity costs rose almost 400%, and we expect them to increase more than 1200% over the next 20 years. By the year 2000, we expect that we will be using more than twice as much electricity as we did in 1980 to keep pace with expansions of our businesses.

Because Union Carbide believes that public opinion is a key factor in determining both the direction and the success of public policies, we commissioned a public opinion survey in the Summer of 1981 to gauge the public mood about electricity pricing, electricity supplies, and the public's sentiment on electricity pricing policy choices. Since electricity policies are decided at the state as well as at the national level, we also commissioned in-depth surveys in six states where Union Carbide has major operations—Connecticut, West Virginia, Alabama, Louisiana, Ohio, and California.

To test the implications of various electricity pricing approaches on industry, a battery of questions were asked relating pricing policies to economic growth, jobs, and the prices people pay for what industry produces. Most Americans say they do not want electricity pricing practices to stand in the way of economic growth in the areas in which they live.

- About 7 out of 10 West Virginians recognize that industry pays attention—3 in 10 saying "a lot of attention"—to what the electric rates are when making a plant location decision.
- Approximately 6 out of 10 oppose charging industry more than it costs to supply them with electricity if it means that some companies might not expand their operations, move operations elsewhere, or that the number of new plants and jobs in their area would be reduced.
- About 8 out of 10 West Virginians recognize that the prices charged by industry are affected by what industry pays for electricity—one in four saying "a large effect." And nearly 6 out of 10 would oppose raising industrial electrical rates, if, in fact, this did lead to increased prices for the goods and services industry produces.

The public's concern about the health of the American economy, reflected in this survey by their choice of policy alternatives that support economic growth, is consistent with the findings of three earlier surveys of public attitudes on economic issues sponsored by Union Carbide. We found in these surveys, conducted from late 1979 through early 1981, that Americans expressed strong and consistent concerns about our economy; had an awareness that America has to do a better job of competing in the world; and believed that government is the main institutional cause for the

decline in the growth and competitiveness of our economy. The results of these surveys reinforced findings of public opinion polls commissioned by others that showed that economic issues were the subjects most troubling to the public as the nation entered the new decade.

As the *Vital Consensus* (published in April, 1980) found, most Americans believed economic growth helped them personally and benefited the entire nation as well; they found growth highly desirable, but they were pessimistic about the likelihood of economic growth in the coming years. *Adversaries or Allies* (published in November, 1980) found almost universal agreement that our difficult economic problems—such as the high rate of inflation, rising energy costs, and inefficient governmental regulations—are exacerbated by needless conflicts among the various sectors of our society. And the public said they wanted all of our institutions—including government and business—to work together more closely to solve these problems. *The Emerging Consensus* (published in April, 1981) found continuing concern over the present state of the economy, general agreement that our economic problems were both a cause and a consequence of our present international trade difficulties, and a growing consensus that government and business must work together more closely if American industry is to become more competitive within a structure of international trade that is fair to all nations.

This fourth survey found most Americans continuing to select policy alternatives that would encourage industrial expansion, jobs, and sound economic growth. On the specific issue of electricity pricing, significant majorities concluded that their personal interests will be served best by the cost of service pricing approach.

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Union Carbide/West Virginia

MONITION

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Introduction

This is an analysis of a survey of public attitudes toward the problem of electricity supply and cost in West Virginia and toward a number of possible electricity pricing policy options. The survey was conducted using a sample of 359 adults scientifically selected to reflect the attitudes of the entire over-18, non-institutionalized population of West Virginia. All interviews were conducted by telephone on a confidential basis by trained, professional interviewers under the supervision of Cambridge Reports, Inc. field staff, between July 17 and July 29, 1981.

Objectives

This survey has the following objectives:

- * To assess overall public awareness of and concern about the supply of electricity in West Virginia;
- * To measure current attitudes toward electric utilities and the rates they charge; and
- * To determine attitudes toward various electric utility rate issues.

Methodology

The methods used in this survey were the same professional ones used in all Cambridge Reports, Inc. surveys. All interviews were conducted by trained, professional interviewers under the supervision of the Cambridge Reports, Inc. field staff and were returned to Cambridge for coding and data processing using modern computer methods.

Notes on analysis

In reading through the report, please keep in mind the following points:

- * The marginals on demographic charts (the number to the left of each demographic designation) show the percentage that the group represents of the overall base population; when the marginal is 15% or less on charts where the base population is approximately 359, conclusions based on these responses should be made with caution, as the numbers are based on a sample size too small to be entirely reliable;
- * A copy of the questionnaire appears in Appendix A, for quick referral;
- * Demographic charts discussed, but not included, in the text are available upon request from the Union Carbide Corporate Communications Department;
- * In some cases, tables and charts may not add to exactly 100% due to rounding.

Summary

This survey of the attitudes of West Virginia residents toward electric utility issues was conducted simultaneously with a national survey using the same questionnaire. The full analysis of the national survey results can be found in the report "Public Attitudes about Electric Utility Issues." The present report highlights how the attitudes of West Virginia residents revealed in the survey compare to the attitudes of the American public as a whole.

On the major points of the survey, we find that the views of the citizens of West Virginia closely resemble those of all Americans. West Virginians differ from the national norms on two major issues, however.

First of all, residents of this state, not surprisingly, are much more favorable to coal conversion than the rest of the nation. West Virginia residents are also more inclined than other people to attribute electric rate increases in other areas to a failure to convert to coal.

At the same time, West Virginians are very happy about their own electric rates and more inclined than the nation as a whole to see the price of electricity lagging behind the price of other goods.

In terms of attitudes toward cost-of-service pricing, the pattern in West Virginia is similar to the national pattern. That is, West Virginia residents support the overall concept of cost-of-service pricing, but are skeptical when they learn that industry might, as a result, pay a lower per unit price for electricity than residential customers. Only when they see benefits for themselves--in terms of lower prices for consumer goods or greater economic development--do they truly favor cost-of-service pricing as a practical choice.

The Problem of Electricity Supplies

The first part of our survey checked people's expectations about electricity supply problems in their area, both now and over the long term, and we then went on to ask people how they feel about various ways of ensuring adequate supplies of electricity.

The responses to these questions reveal some significant differences between the views of West Virginia residents and the views of the American public as a whole. In the first place, West Virginians are strongly committed to coal. As the next table shows, over nine out of every ten people in West Virginia support the use of coal to generate electricity. Over half the state's population--more than twice the national average--are strong supporters of coal use.

I'm going to read you a proposal for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose it: increasing our use of coal to generate electricity.

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	23%	57	13	5	2
West Virginia	57%	38	3	2	--

Demographic breakdowns show that, in West Virginia, strong support for coal use is more prevalent among older people than among younger people. West Virginia, however, is so favorable to coal that few real demographic patterns are evident. A complete demographic breakdown follows.

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose or strongly oppose each one: increasing our use of coal to generate electricity.

- | | |
|-------------------|--------------------|
| 1. STRONGLY FAVOR | 2. FAVOR |
| 3. OPPOSE | 4. STRONGLY OPPOSE |
| 5. DK | |

Responses = 360

	1.	2.	3.	4.	5.
MARGINALS	57	38	3	2	0

18. PRICE BASED ON UTILITY'S COSTS

32	TOTALLY	64	32	2	3	0
24	MOSTLY	48	46	3	1	1
35	SOMEWHAT	58	37	3	2	0
5	NOT AT ALL	44	45	10	0	0
3	DK	45	47	8	0	0

27. SEX

50	FEMALE	55	40	3	2	1
50	MALE	58	36	4	2	0

28. EDUCATION

23	SOME HIGH	52	35	9	4	0
45	HIGH GRAD	60	38	2	0	0
14	SOME COLLEGE	48	48	0	4	0
18	COLLEGE PLUS	58	37	2	1	1
1	DK	100	0	0	0	0

29. INCOME

21	0-9999	51	39	5	4	0
33	10-19999	52	44	2	2	0
39	20K AND OVER	64	33	3	1	0
6	REFUSED	55	35	5	0	4

30. AGE

40	18-35	49	44	5	1	1
32	36-55	61	36	3	1	0
27	55 AND OVER	63	32	1	4	0
1	REFUSED	69	31	0	0	0

Given this commitment to coal and the stake their state has in its development, it isn't surprising that West Virginians are less favorable than the nation as a whole toward the idea of nuclear power plant construction. While the nation is nearly divided on the question, West Virginians reject nuclear power by a 16-point margin.

I'm going to read you a proposal for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose it: building more nuclear plants to generate electricity.

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
West Virginia	12%	28	25	31	4

Demographic breakdowns show few clear patterns of support or opposition to nuclear power in West Virginia. A complete demographic analysis follows.

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one: building more nuclear power plants to generate electricity.

1. STRONGLY FAVOR	2. FAVOR				
3. OPPOSE	4. STRONGLY OPPOSE				
5. DK					
Responses = 360	1.	2.	3.	4.	5.
MARGINALS	12	28	25	31	4
18.PRICE BASED ON UTILITY'S COSTS					
32 TOTALLY	13	24	26	31	5
24 MOSTLY	8	37	27	28	0
35 SOMEWHAT	11	24	24	34	6
5 NOT AT ALL	15	35	20	25	5
3 DK	18	19	18	27	18
27.SEX					
50 FEMALE	10	27	24	32	7
50 MALE	13	29	26	30	2
28.EDUCATION					
23 SOME HIGH	22	23	18	30	7
45 HIGH GRAD	9	24	30	35	2
14 SOME COLLEGE	2	30	19	43	6
18 COLLEGE PLUS	11	41	29	14	5
1 DK	0	0	0	54	46
29.INCOME					
21 0-9999	16	19	18	39	7
33 10-19999	10	33	28	26	3
39 20K AND OVER	12	26	27	30	4
6 REFUSED	0	34	22	39	4
30.AGE					
40 18-35	11	32	26	28	2
32 36-55	11	24	29	30	5
27 55 AND OVER	13	26	18	36	7
1 REFUSED	0	0	37	31	31

Electric Utilities and Their Rates

The second part of our survey, which tested people's perceptions about electric rates and about the possible causes of rate increases, reveals other notable differences between West Virginia residents and the nation as a whole.

As the next table shows, West Virginians differ from the nation as a whole in that nearly half describe their electric bills as "about right." The number who describe their bills as "very high" is 12 points below the national average.

Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
West Virginia	16%	36	44	3	1	1

Demographic breakdowns show that women in West Virginia are more inclined than men to feel their bills are high; an actual majority of men say their bills are all right. Poorer people are also somewhat likelier than wealthier people to feel their bills are high. A complete demographic breakdown follows.

Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

- | | |
|----------------|------------------|
| 1. VERY HIGH | 2. SOMEWHAT HIGH |
| 3. ABOUT RIGHT | 4. SOMEWHAT LOW |
| 5. VERY LOW | 6. DK |

Responses = 360

	1.	2.	3.	4.	5.	6.
MARGINALS	16	36	44	3	1	1
18. PRICE BASED ON UTILITY'S COSTS						
32 TOTALLY	17	33	46	4	0	1
24 MOSTLY	12	32	53	3	0	0
35 SOMEWHAT	12	46	37	3	1	1
5 NOT AT ALL	35	24	36	0	6	0
3 DK	45	18	37	0	0	0
27. SEX						
50 FEMALE	21	39	37	2	1	1
50 MALE	11	33	50	4	1	1
28. EDUCATION						
23 SOME HIGH	21	31	42	2	2	1
45 HIGH GRAD	16	39	41	3	0	1
14 SOME COLLEGE	14	44	37	5	0	0
18 COLLEGE PLUS	11	29	57	3	0	0
1 DK	0	46	54	0	0	0
29. INCOME						
21 0-9999	21	40	33	3	1	3
33 10-19999	16	31	50	2	0	0
39 20K AND OVER	10	41	44	4	1	0
6 REFUSED	35	22	43	0	0	0
30. AGE						
40 18-35	11	44	39	5	1	0
32 36-55	22	32	45	0	0	1
27 55 AND OVER	17	28	48	4	1	1
1 REFUSED	0	31	69	0	0	0

West Virginia residents are also less inclined than the people of the nation as a whole to think electric bills are going up faster than prices in general. The next table shows that, by a four-to-one margin, West Virginians see the prices of other things increasing faster than the price of electricity.

Which do you think has gone up more since 1967--the
cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
West Virginia	17%	5	78

Demographic breakdowns show that the responses to this question are fairly uniform through the population of West Virginia. A complete demographic analysis follows.

Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

1. COST OF ELECTRICITY
3. COST OF OTHERS

2. DK

Responses = 359

1. 2. 3.

MARGINALS

17 5 78

18.PRICE BASED ON UTILITY'S COSTS

32	TOTALLY	18	7	75
24	MOSTLY	15	5	80
35	SOMEWHAT	13	6	81
5	NOT AT ALL	29	0	71
3	DK	36	0	64

27.SEX

50	FEMALE	21	7	73
50	MALE	13	4	83

28.EDUCATION

22	SOME HIGH	18	5	77
45	HIGH GRAD	15	5	80
14	SOME COLLEGE	18	4	79
18	COLLEGE PLUS	18	9	73
1	DK	0	0	100

29.INCOME

21	0-9999	16	11	73
33	10-19999	17	5	78
39	20K AND OVER	16	2	82
6	REFUSED	21	13	66

30.AGE

40	18-35	12	2	86
32	36-55	24	5	71
27	55 AND OVER	15	11	74
1	REFUSED	37	0	63

Furthermore, as might be expected from their strong support for coal, West Virginians are inclined to attribute rising electricity prices to the failure of utilities to convert more quickly to coal. As the table shows, two-thirds of the West Virginia sample consider this a very important factor in rising electricity prices.

Here is a reason some people give for the rise in electricity prices during the last 5 years or so. Please tell me whether you think this is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the slow pace of conversion to greater use of coal to generate electricity.

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
West Virginia	65%	25	9	2	2

Demographic breakdowns again show fairly uniform pro-coal sentiment in the West Virginia population. A complete demographic breakdown follows.

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices: the slow pace of conversion to greater use of coal to generate electricity.

1. VERY IMPT
3. NOT VERY IMPT
5. DK

2. SOMEWHAT IMPT
4. NOT IMPT AT ALL

Responses = 360

1. 2. 3. 4. 5.

MARGINALS

62 25 9 2 2

18. PRICE BASED ON UTILITY'S COSTS

32	TOTALLY	68	20	9	1	2
24	MOSTLY	56	29	11	2	1
35	SOMEWHAT	61	27	10	1	1
5	NOT AT ALL	66	25	5	5	0
3	DK	55	29	0	0	16

27. SEX

50	FEMALE	61	26	7	3	4
50	MALE	63	25	12	1	0

28. EDUCATION

23	SOME HIGH	62	23	9	1	5
45	HIGH GRAD	67	25	6	2	1
14	SOME COLLEGE	53	33	12	2	0
18	COLLEGE PLUS	58	25	13	2	3
1	DK	100	0	0	0	0

29. INCOME

21	0-9999	63	27	5	2	2
33	10-19999	64	25	8	0	3
39	20K AND OVER	62	23	13	2	0
6	REFUSED	51	31	9	4	4

30. AGE

40	18-35	59	28	12	0	2
32	36-55	66	22	8	3	0
27	55 AND OVER	62	26	7	1	4
1	REFUSED	69	0	0	31	0

Finally, when West Virginians are asked to consider the cost of electricity in light of its benefits, a majority say prices are about right. The group who say rates are high is 19 points smaller in West Virginia than in the nation as a whole.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
West Virginia	13%	34	50	2	1	1

Demographic breakdowns show that lower-income and less-educated people are somewhat more inclined than their counterparts to feel that prices for electricity are high. Women, as always, are more inclined than men to feel prices are high. A complete demographic analysis follows.

Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

1. VERY HIGH
3. ABOUT RIGHT
5. VERY LOW

2. SOMEWHAT HIGH
4. SOMEWHAT LOW
6. DK

Responses = 360

1. 2. 3. 4. 5. 6.

MARGINALS

13 34 50 2 1 1

18. PRICE BASED ON UTILITY'S COSTS

32	TOTALLY	17	30	50	2	1	0
24	MOSTLY	11	29	57	3	0	0
35	SOMEWHAT	9	44	44	2	1	1
5	NOT AT ALL	25	25	45	0	0	5
3	DK	10	26	64	0	0	0

27. SEX

50	FEMALE	16	39	43	2	0	1
50	MALE	10	29	56	2	1	1

28. EDUCATION

23	SOME HIGH	18	25	57	0	0	0
45	HIGH GRAD	13	37	48	1	1	0
14	SOME COLLEGE	8	43	44	2	0	2
18	COLLEGE PLUS	10	32	51	7	0	1
1	DK	0	100	0	0	0	0

29. INCOME

21	0-9999	17	40	41	0	1	0
33	10-19999	10	31	55	3	0	0
39	20K AND OVER	10	35	50	2	1	1
6	REFUSED	27	30	43	0	0	0

30. AGE

40	18-35	10	40	47	3	1	0
32	36-55	14	35	49	0	1	1
27	55 AND OVER	16	26	54	3	0	1
1	REFUSED	0	31	69	0	0	0

Utility Rate Issues

As we mentioned earlier, the proportion of people in West Virginia who back cost-of-service pricing--the focus of the third part of our survey--is similar to that in the nation as a whole. Looking at the responses to our most general question on this issue, displayed in the table below, we see that the numbers in West Virginia are fairly close to the national norm.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
West Virginia	32%	24	35	5	3

Demographic breakdowns show that higher-income and better-educated people in West Virginia are somewhat more likely than their counterparts to feel that prices should be based entirely or mostly on the cost of service. Older people are slightly more likely than younger people to take this point of view. A complete demographic breakdown follows.

Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

1. TOTALLY
3. SOMEWHAT
5. DK

2. MOSTLY
4. NOT AT ALL

Responses = 360

1. 2. 3. 4. 5.

MARGINALS

32 24 35 5 3

18. PRICE BASED ON UTILITY'S COSTS

32	TOTALLY	100	0	0	0	0
24	MOSTLY	0	100	0	0	0
35	SOMEWHAT	0	0	100	0	0
5	NOT AT ALL	0	0	0	100	0
3	DK	0	0	0	0	100

27. SEX

50	FEMALE	32	23	36	7	2
50	MALE	33	25	35	4	4

28. EDUCATION

23	SOME HIGH	31	14	39	11	6
45	HIGH GRAD	34	26	34	5	2
14	SOME COLLEGE	35	27	35	2	2
18	COLLEGE PLUS	31	28	35	3	3
1	DK	0	0	100	0	0

29. INCOME

21	0-9999	33	12	43	6	5
33	10-19999	29	29	33	5	4
39	20K AND OVER	37	26	32	4	2
6	REFUSED	17	21	45	13	4

30. AGE

40	18-35	27	27	40	4	2
32	36-55	36	20	32	8	4
27	55 AND OVER	36	24	32	5	3
1	REFUSED	0	31	31	0	37

APPENDIX A

The Questionnaire

On a scale from "1" to "7," where "1" means "not difficult at all" and "7" means "very difficult," I would like you to tell me how difficult you feel the problem of providing an adequate and reliable supply of electricity in your area is. The more difficult you feel the problem is, the higher the number you would give.

1. How difficult today is the problem of providing an adequate and reliable supply of electricity in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	25%	14	18	14	16	4	6	1
West Virginia	33%	16	13	13	15	4	5	1

2. How difficult 10 years from now do you think the problem of providing an adequate and reliable supply of electricity will be in your area?

	Not difficult at all					Very difficult		[DON'T KNOW]
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	11%	7	11	12	17	14	24	5
West Virginia	16%	10	11	11	16	10	19	7

I'm going to read you some proposals for ways of providing an adequate supply of electricity, and I'd like you to tell me whether you strongly favor, favor, oppose, or strongly oppose each one.

3. Increasing our use of coal to generate electricity

	Strongly favor	Favor	Oppose	Strongly oppose	(Don't know)
National	23%	57	13	5	2
West Virginia	57%	38	3	2	--

4. Building more nuclear power plants to generate electricity

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	15%	32	29	21	2
West Virginia	12%	28	25	31	4

5. Increased conservation of electricity by individual consumers, business, and industry

	<u>Strongly favor</u>	<u>Favor</u>	<u>Oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	40%	46	8	3	2
West Virginia	39%	47	9	3	2

6. On a scale from "1" to "7," how would you rate your electric company overall if "1" means "very, very bad" and "7" means "very, very good"?

	<u>Very, very bad</u>					<u>Very, very good</u>		<u>[DON'T KNOW]</u>
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	5%	3	11	18	27	19	18	--
West Virginia	3%	3	6	12	24	20	32	--

7. Approximately what is your average monthly electric bill?

	<u>\$0- 25</u>	<u>\$26- 50</u>	<u>\$51- 75</u>	<u>\$76- 100</u>	<u>\$101- 125</u>	<u>\$126- 150</u>	<u>\$151- 175</u>	<u>\$176- 200</u>	<u>Over \$200</u>	<u>(Don't know)</u>
National	19%	37	17	12	4	2	1	1	2	5
West Virginia	22%	45	16	10	2	1	1	--	--	4

8. Generally, would you say that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	28%	38	29	3	1	1
West Virginia	16%	36	44	3	1	1

9. Which do you think has gone up more since 1967--the cost of electricity or the cost of most other things?

	<u>Cost of electricity</u>	<u>(Don't know)</u>	<u>Cost of most other things</u>
National	29%	6	65
West Virginia	17%	5	78

10. Do you think your electric company sets its own rates, or does a state commission set the rates that your electric company charges?

	<u>Electric companies set own rates</u>	<u>(Don't know)</u>	<u>State commission sets rates</u>
National	42%	9	49
West Virginia	31%	15	53

Here are reasons some people give for the rise in electricity prices during the last 5 years or so. Please tell me if you think each of these is a very important, somewhat important, not very important, or not at all important reason for rising electricity prices.

11. Increased costs of fuel used to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	54%	38	5	2	1
West Virginia	51%	38	9	2	1

12. Dependence on imported oil as a fuel for generating electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	31	15	7	1
West Virginia	43%	25	17	11	3

13. The time it takes to meet environmental and health and safety regulations that are required by the government before a new power plant can be built

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	47%	35	12	5	2
West Virginia	49%	32	12	4	4

14. The cost of controlling and decreasing air and water pollution caused by power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	45%	35	15	3	2
West Virginia	50%	31	10	4	4

15. The slow-down in constructing nuclear power plants

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	33%	33	23	7	4
West Virginia	33%	27	21	12	7

16. The slow pace of conversion to greater use of coal to generate electricity

	<u>Very important</u>	<u>Somewhat important</u>	<u>Not very important</u>	<u>Not at all important</u>	<u>(Don't know)</u>
National	46%	35	13	4	3
West Virginia	65%	25	9	2	2

17. Considering all the different ways you use electricity in your daily life and the benefits you receive for what you pay for electricity, do you feel that the rates your electric company charges are very high, somewhat high, about right, somewhat low, or very low?

	<u>Very high</u>	<u>Somewhat high</u>	<u>About right</u>	<u>Somewhat low</u>	<u>Very low</u>	<u>(Don't know)</u>
National	22%	44	30	3	1	1
West Virginia	13%	34	50	2	1	1

18. Just in general, do you feel that the price of electricity to a consumer should be based totally, mostly, somewhat, or not at all on what it actually costs an electric utility to supply electricity to that consumer?

	<u>Totally</u>	<u>Mostly</u>	<u>Somewhat</u>	<u>Not at all</u>	<u>(Don't know)</u>
National	28%	30	35	4	3
West Virginia	32%	24	35	5	3

19. Do you think that poorer people should pay less for the electricity they use or do you think that they should pay the same rates as other users?

	<u>Pay less</u>	<u>(Don't know)</u>	<u>Pay the same</u>
National	33%	2	64
West Virginia	33%	4	63

20. It has been proposed that the government help poorer people pay for a certain basic amount of electricity. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose such a program?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	26%	34	20	19	1
West Virginia	24%	38	18	18	2

21. In many parts of the United States industries that use a lot of electricity pay less than residential electricity users for each unit of electricity they use. Some say it is fair that industrial users pay less for each unit of electricity because it actually costs less to produce, transmit, and maintain this high volume, high voltage electrical service to industrial users than to provide electricity to residential users. Others say this is not fair. Even if it costs less to provide their service, they say industrial users should still pay the same rates as residential users because they can afford higher electricity rates more than residential users can. Assuming that it actually does cost less to provide electricity to industrial users, would you favor a system of charging industrial users less or would you favor charging industrial and residential users the same amount for each unit of electricity they use?

	<u>Favor system of charging industrial users less</u>	<u>(Don't know)</u>	<u>Favor charging all users same amount for each unit of electricity</u>
National	35%	2	63
West Virginia	32%	1	67

22. How much effect do you think the electricity rates paid by industry have on the prices they charge consumers for the products they make? Do you feel that industrial electricity rates have a large effect on the prices paid by consumers for products and services, some effect, hardly any effect, or no effect at all?

	<u>A large effect</u>	<u>Some effect</u>	<u>Hardly any effect</u>	<u>No effect at all</u>	<u>(Don't know)</u>
National	25%	55	11	6	2
West Virginia	27%	52	12	6	3

23. Some people say that making industrial users pay more for their electricity will help hold down electricity rates for residential consumers. Others say that while raising rates for industrial users may hold down residential electricity rates, consumers won't gain anything in the long run because higher industrial rates will ultimately just be passed along to consumers in the form of higher prices for products and services. Would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose raising industrial electrical rates if in fact, this did lead to increased prices for the goods and services industries produce?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	12%	27	29	30	3
West Virginia	13%	28	30	25	4

24. Let's say a company is deciding where to build a new factory and has two or three different areas or regions under consideration. Assuming all other costs are relatively equal, do you think the company pays a lot of attention, as they make their plant location decision, to what the electric rates are in each location, some attention, only a little attention, or no attention at all?

	<u>A lot of attention</u>	<u>Some attention</u>	<u>Only a little attention</u>	<u>No attention at all</u>	<u>(Don't know)</u>
National	28%	44	15	12	1
West Virginia	29%	41	19	10	1

25. Thinking about this area--would you favor or oppose having industrial users of electricity pay more than it costs to supply them with the electricity they use--thus holding down the increase in residential rates--if this meant that some companies and factories would not expand their operations and increase jobs in this area or might actually move to other areas that have lower industrial electricity rates?

	<u>Favor</u>	<u>(Don't know)</u>	<u>Oppose</u>
National	37%	4	59
West Virginia	33%	4	63

26. Let's say there was a clear choice--your own electric rates would go up less rapidly but industrial expansion and the number of new plants and jobs in your area would be reduced. If that were the choice, would you strongly favor, somewhat favor, somewhat oppose, or strongly oppose having industrial electricity users pay more than it costs to supply them with the electricity they use?

	<u>Strongly favor</u>	<u>Somewhat favor</u>	<u>Somewhat oppose</u>	<u>Strongly oppose</u>	<u>(Don't know)</u>
National	9%	26	35	28	3
West Virginia	9%	24	37	27	2

I'd like to ask you a few last questions for statistical purposes only.

27. [OBSERVATION] Sex

	<u>Female</u>	<u>Male</u>
National	50%	50
West Virginia	50%	50

28. What was the last grade you completed in school?

- | | |
|---------------------------------|--------------------------------|
| 1. Some grade school (1-8) | 2. Some high school (9-11) |
| 3. Graduated high school | 4. Technical/vocational school |
| 5. Some college | 6. Graduated college |
| 7. Graduate/professional school | 8. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
National	6%	8	37	2	21	17	9	--
West Virginia	11%	12	43	2	14	12	6	1

29. In which of the categories I read is the total annual income of this entire household—of everyone living in this house? [READ RESPONSES]

- | | | |
|----------------------|----------------|-----------------|
| 1. \$0-6,999 | 2. \$7-9,999 | 3. \$10-12,999 |
| 4. \$13-14,999 | 5. \$15-19,999 | 6. \$20-24,999 |
| 7. \$25,000 and over | 8. (Refused) | 9. (Don't know) |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
National	8%	9	7	7	13	14	35	6	2
West Virginia	10%	11	10	7	16	14	25	3	3

30. What is your age? [RECORD IN PROPER CATEGORY]

- | | | |
|--------------|----------|------------|
| 1. 18-25 | 2. 26-35 | 3. 36-45 |
| 4. 46-55 | 5. 56-65 | 6. Over 65 |
| 7. (Refused) | | |

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
National	17%	26	16	17	11	12	1
West Virginia	18%	22	14	18	17	10	1



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